

**Exploring Food Insecurity in the Cowichan Valley: A Situation Analysis for
the Cowichan Food Security Coalition**

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INDIVIDUAL RESEARCHER CONTRIBUTIONS

Led by Anabelle Budd	Led by Derek Moryson	Led by both researchers
Ethics Application	Amendments to Ethics Application	Research Proposal
Conceptual Framework	CVRD Socioeconomic Profile	Methodology
CFSC and CGC Programs and Initiatives	CVRD Community Food Asset Map	Literature Review
Internal Expert Interviews	Funding and Financial Opportunities	Recommendations
Review of Leading Organizations with Similar Objectives as the CFSC	PowerPoint Presentation	Executive Summary

EXECUTIVE SUMMARY

Introduction

This report presents the results of a situation analysis for the Cowichan Food Security Coalition (CFSC), a working group associated with the Duncan-based non-profit, the Cowichan Green Community (CGC).

The situation analysis was designed and executed to improve the CFSC's understanding of the extent of food insecurity in the Cowichan Valley Regional District (CVRD), to help strategically align their services to meet community needs, and to better rationalize programming proposals to potential funders. The situation analysis assists the CFSC in its mission by providing information and evidence about the extent of food insecurity in the CVRD and by identifying new programs and services it could develop to meet the food security needs of the community. The definition of food security used in this project is the CGC's definition of food security: a state in which "all members of the community have access to enough nutritious, safe, ecologically sustainable, and culturally appropriate food at all times" (Cowichan Green Community, 2014, para. 5). In contrast, food insecurity is defined as the "inadequate or insecure access to food, usually due to financial constraints" (PROOF, 2017, para. 1).

The situation analysis sought to answer the research question: What suite of activities and programs can the CFSC implement to best meet the food security needs of the CVRD and what strategies can the organization develop to implement these activities and programs?

The research question was elaborated into the following three main objectives:

1. Research the extent of food security in the CVRD by performing a situation analysis, including community food asset mapping.
2. Identify an array of food security programs by reviewing other leading, innovative food security non-profits to recommend a tailored suite of new programs/activities the CFSC could perform to best meet the needs of the CVRD.
3. Provide recommendations to help the CFSC prioritize food security programming.

For the purposes of this report, "activities" refer to CFSC internal group operations and "programs" refer to the group's services that are delivered to CVRD citizens.

Methodology and Methods

The research question and objectives were answered using a situation analysis. The methods used included developing a socioeconomic profile of the CVRD, mapping CVRD community food assets, providing a review of leading organizations with similar objectives as the CFSC, and conducting internal and external expert interviews. The research question is also contextualized in the broader food security research through a literature review.

The literature review was conducted to provide contextual background information on the key themes and current state of food security in Canada and British Columbia (B.C.). It identified

key challenges with food security in Canada and B.C. and revealed several innovative policy and community-based approaches to reducing food insecurity. Essentially, the literature review provided the foundation for the situation analysis.

Findings

First, rates of food insecurity on Central Vancouver Island are estimated at 14% (PHSA, 2016, p. 2), suggesting that 14% of the CVRD population could be food insecure. In particular, findings from the socioeconomic profile, paired with information gathered from the literature review, provide insight into the segments of the population likely to be experiencing food insecurity, and the challenges that might be exacerbating the issue in the CVRD.

Key economic indicators, for example, increasing housing prices, demonstrate that the CVRD population is facing a heightened cost of living, which is exacerbating the experience of poverty. Moreover, rising food costs will significantly impact low-income households, households with three or more children, and households headed by a single female parent.

Second, the project's food mapping activity of four key CVRD communities - Duncan, North Cowichan, Ladysmith, and Lake Cowichan - revealed a low to moderate amount of food assets. Following the City of Vancouver (2013, p. 129) definition, food assets are "resources, facilities, services, or spaces...used to support the local food system."

Currently, across the four communities, there are approximately five food banks, five farmers' markets, four community kitchens, six community gardens (with multiple plots), seven food-focused non-profits, seven no-cost food providers (in addition to food banks), two food box providers, two food co-ops, and 17 retail grocery stores. The CFSC and its parent organization, the CGC, deliver a number of the food assets identified in the food map, including community gardens, a gleaning program, and urban farming projects.

Third, internal expert interviews with CFSC members revealed a lack of consensus in the group regarding their mission and goals, impacting their ability to execute their ideas to drive social change. Nonetheless, the group agreed on a number of challenges that are worsening food insecurity in the region, including the need for more collaboration between organizations, the exacerbating impact of poverty, and the lack of food advocacy, lobbying, and information. Insufficient human and financial resources to meet organizational goals was also highlighted as a critical challenge by multiple participants.

Finally, the review of leading organizations with similar objectives as the CFSC and external expert interviews brought to light a number of innovative food programs delivered across the country, such as the mobile food market or intergenerational meals, which are not currently offered in the CVRD. Prominent themes that arose from this research included the significance of understanding community needs, the importance of reaching target program beneficiaries through apt communication, the relevance of strategic fundraising for non-profits, and the benefit of engaging in cross-sector collaboration.

Recommendations

In light of the project's findings, the following five recommendations are highlighted below:

1. Review and solidify the CFSC's mission, vision, purpose, and core values.
2. Consider a hybrid nonprofit business model to generate revenue.
3. Consider a branding and digital strategy for the CFSC.
4. Leverage the CFSC's strengths to alter the CVRD's community food system.
5. Develop charitable programs that reflect the composition of the CVRD population and that meet the needs of the most vulnerable.

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1.0 INTRODUCTION

1.1 Introduction

This report presents the results of a situation analysis that assesses and describes the extent of food insecurity in the Cowichan Valley Regional District (CVRD), before identifying potential new programs and services the Cowichan Food Security Coalition (CFSC) could implement to reduce it. The definition of food security used in this project is the CGC’s definition of food security: a state in which “all members of the community have access to enough nutritious, safe, ecologically sustainable, and culturally appropriate food at all times” (Cowichan Green Community, 2014, para. 5). In contrast, PROOF’s definition of food *insecurity* was used defined as the: “inadequate or insecure access to food, usually due to financial constraints” (2017, para. 1).

The question guiding the research is: What suite of activities and programs can the CFSC implement to best meet the food security needs of the CVRD and what strategies can the organization develop to implement these programs and activities?

The research question was elaborated into the following three main objectives:

1. Research the extent of food security in the CVRD by performing a situation analysis, including community food asset mapping, shedding light on food insecurity in the Cowichan region.
2. Identify an array of food security programs by reviewing other leading, innovative food security non-profits to recommend a suite of new programs/activities the CFSC could implement to best meet the needs of the CVRD.
3. Provide recommendations to help the CFSC prioritize food security programming.

For the purposes of this report, “activities” refer to internal group operations and “programs” indicate the group’s services that are delivered to the CVRD.

1.2 Problem Definition

The Cowichan Green Community Society (CGC) is a non-profit organization that focuses on environmental sustainability in the Cowichan region of Vancouver Island, B.C. Established in 2004, the organization provides a host of programs and services to the CVRD (Cowichan Green Community, 2014, Our Mission, our Vision, our Values). Judy Stafford, the CGC’s Executive Director, is the client for this project.

In 2008, the CGC formed a working group, the CFSC, to leverage the skills and experience of their members to create a dedicated team focused on reducing food insecurity in the CVRD (Cowichan Green Community, 2010, p. 5). In the fall of 2016, the CFSC was facing challenges in delivering food security programs, due in part to resource limitations. Moreover, the group was interested in developing an evidence-based understanding of the current food insecurity

landscape in the Cowichan region to help strategically align their services to meet community needs and to better rationalize programing proposals to potential funders. As a result, the client invited the project's two researchers to assist the CFSC in its mission by providing evidence on the extent of food insecurity in the CVRD, identifying funding opportunities for the group, and identifying new programs and services it could develop to meet the food security needs of the community.

1.3 Overview of the CFSC

The CFSC works collaboratively to make strategic decisions with respect to their priorities, facilitated by a CGC staff person. Working with its parent organization and community partners, the CFSC has been engaged in several strategic projects over the past eight years including the development of a food security plan, food security report cards, and the Cowichan food charter (Cowichan Green Community, 2014, Cowichan Food Security Coalition). By leveraging the collective experience and knowledge of its members, the CFSC has been successful at engaging local community partners and stakeholders, as demonstrated by the adoption of the Cowichan food charter by many local businesses, partners, and stakeholders. Currently, the CFSC is working on the following initiatives (Cowichan Green Community, 2014, Cowichan Food Security Coalition, para. 4):

1. Food production education programs for Cowichan citizens
2. Lobbying initiatives to promote policy aimed at reducing food insecurity
3. Food waste reduction

Through the above programs, the CFSC enhances awareness about food insecurity in the CVRD, and promotes policies and programs that reduce food insecurity and improve food system resilience.

The CGC has a diverse group of funding partners including Island Health (VIHA), the Province of British Columbia, the Government of Canada, and private donors providing funding to support the CGC'S programs and initiatives (Cowichan Green Community, Funders and Partners, 2014). The CFSC, acting as a working group overseeing specific CGC initiatives, align their strategic priorities with those of the CGC. Currently, the CFSC does not receive direct funding from external sources. By identifying the needs of the CVRD and the activities to meet those needs, this project may be instrumental in diversifying and increasing sources of funding for the CGC and the CFSC.

In 2015, the CGC's total revenue was \$664,553 and their total expenses were \$673,326 (W. Pan and Company, 2015, p. 4). Most of CGC's revenue is from grant funding, although some programs generate additional revenue, and some private donations are received. Wages and program costs account for most the CGC's expenses.

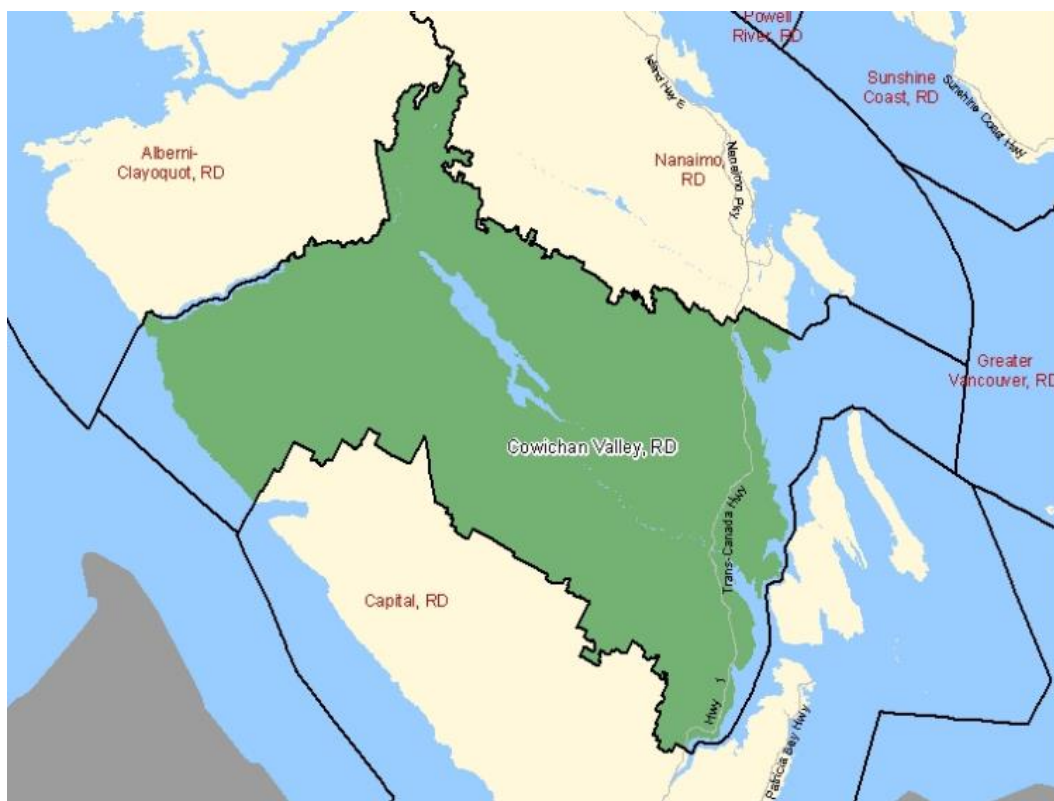
1.4 Overview of the CVRD

The Cowichan Valley Regional District is a regional district on Vancouver Island in the Province of British Columbia. The 2016 Census indicates the CVRD's population count was 83,739 (Statistics Canada, 2016a). It is made up of several different communities; however, this report focuses its analysis on understanding food insecurity in the key four communities below that make up over half the population of the CVRD (CVRD, Reports and Statistics, n.d.):

- The City of Duncan (2016 population: 4,944)
- The Town of Ladysmith (2016 population: 8,537)
- The Town of Lake Cowichan (2016 population: 3,226)
- The District Municipality of North Cowichan (2016 population: 29,676)

The CVRD also contains 16 Indigenous reserves and is made up of nine electoral areas in southern Vancouver Island (Statistics Canada, 2013b). The CVRD covers a land area of 3,463.12 square kilometres (CVRD, 2017, para.1). Below is a map highlighting the geographic boundaries of the CVRD:

Figure 1. The Cowichan Valley Regional District Geographic Boundaries



Source: Statistics Canada, 2017.

1.5 Project Rationale

An assessment of the extent of food insecurity in the Cowichan region, as well as the CFSC's current service offerings, and of potential solutions is needed to develop new programs and garner financial support from external sources to support these programs. The research will assist the CFSC in identifying community needs and successfully implemented programs by organizations with similar missions that could potentially address these needs. Evidence-based program proposals will strengthen the CFSC's negotiating position with funding partners, providing the transparency and justification such organizations require to financially support community programs. Reliable evidence of food insecurity and of successful programming to address such insecurity can be used to rally community support for food security programming.

1.6 Organization of the Report

The remainder of this report consists of the following sections. The Methodology section discusses the various methodologies employed to gather data and arrive at report recommendations. The Literature Review provides a comprehensive overview of the definition, components, and responses to food insecurity in Canada and B.C. Moreover, it identifies potential upstream and downstream approaches to reduce food insecurity. The Conceptual Framework section distinguishes the types of initiatives available to food security organizations and serves as an organizational tool to decipher an organization's desired scope of activity. The Situation Analysis features a socioeconomic profile of the CVRD, a community food asset map, expert interviews, funding opportunities, and a review of leading organizations with similar objectives as the CFSC. This is followed by recommendations and finally a brief conclusion highlighting the major findings of the report.

2.0 METHODOLOGY AND METHODS

The methodology underlying this report is a situation analysis that sought to answer the following research question: What suite of activities and programs can the CFSC implement to best meet the food security needs of the CVRD and what strategies can the organization develop to implement these programs and activities?

A situation analysis is the fourth step in the strategic planning process, according to strategy expert John Bryson (Bryson, 2011, p. 181). Typically, a situation analysis assesses the internal workings of an organization as well as the external environment it is situated in (Bryson, 2011, p. 183). The goal of the situation analysis is to identify organizational strengths and weaknesses as well as external opportunities and challenges (Bryson, 2011, p. 183). The situation analysis may be conceptualized to be narrow or broad in scope, depending on the needs of the organization. For example, a simple SWOT or PEST analysis may be performed, or an organization may wish to include additional elements to expand their analysis (Lake, 2017). For this project, a custom situation analysis was developed to meet the needs of the CFSC. The socioeconomic profile, community food asset mapping, internal expert interviews, and review of leading organizations with similar objectives as the CFSC, mirror the components of a traditional situation analysis, but are unique to this report.

The following methods were used:

1. Socioeconomic profile of the CVRD
2. Community food asset map
3. Review of leading food security organizations external to the CVRD
4. Expert interviews with CFSC/CGC members and staff and representatives of food security organizations external to the CVRD

The research also included a literature review to provide contextual background information on the key themes and current state of food security in Canada and B.C. Most of the data and information for this research program was collected through secondary sources, including public academic databases, professional organization web pages, and government organizations, such as Island Health. Primary data was collected directly from CFSC/CGC members and from experts employed by leading food security organizations external to the CVRD. Analyzing the data required qualitative content analysis, described by Flick (2015) as a combination of summarization, clarification, and structuring of content in light of context (p. 167-169).

2.1 Literature Review

An extensive literature review was conducted to better understand the causes and expressions of food insecurity. While this exercise was meant for context, the review assisted with the identification of programs and activities that the CFSC could develop and implement to meet the needs of their community.

Literature Review Structure

The literature review was undertaken to determine prevalent themes, concepts, and theories in the food security/insecurity literature that pertain to the research question and situation analysis.

The food security/insecurity literature is broad and voluminous; to ensure relevant literature was used in the review, preference was given to research published over the past 10-15 years. Beyond addressing the research question, the literature review provided important contextual background information about food insecurity in Canada and British Columbia, informed the situation analysis, and identified causes of food insecurity and social impacts of this multidimensional, social problem.

Literature Review Process

The literature review process consisted of several steps. First, keywords were identified to locate relevant literature. They included: “food insecurity,” “British Columbia food security/insecurity,” “food security/insecurity policy in British Columbia/Canada,” “poverty,” “food security/insecurity and poverty in Canada/British Columbia,” “food insecurity and economics,” “Ladysmith British Columbia,” “economic analysis of British Columbia communities,” “food insecurity Canada,” “community food security,” “health and food security,” “food security/insecurity causes,” “food insecurity predictors,” and “food insecurity and determinants of health.” Keywords were entered into the UVic Summons, Google Scholar, and Google databases/search engines.

Additional literature searches were performed via bibliography/reference checks to identify important (widely cited) literature and prominent scholars involved in the Canadian food insecurity discussion. Moreover, targeted literature searches were performed to obtain specific information related to a topic or theme (e.g., measurement) to verify information accuracy and ensure the literature review was comprehensive.

Literature Review Justification

A thorough literature reveals valuable information about a research question (Berg & Lune, 2012, p. 34). Moreover, it provides contextual background information about the topic and identifies what scholarly research has been published on it (Berg & Lune, 2012, p. 34). Both researchers had elementary knowledge of the research topic and themes and the literature review served as a learning tool. More importantly, the literature review informed the researchers about current approaches, both policy and community focused, about how to reduce food insecurity. Often, the strengths and weaknesses of approaches were elucidated in the literature which provided fodder for the researchers with respect to potential recommendations that could be made to the CFSC to enhance food security programming in the CVRD.

2.2 Situation Analysis Methods

The situation analysis relies on the collection and analysis of quantitative and qualitative community data obtained through a variety of primary and secondary sources. The situation analysis, especially the CVRD socioeconomic profile, is primarily informed by Statistics Canada's National Household Survey (NHS), otherwise known as the long-form census.

Because the NHS does not contain detailed health statistics and food insecurity rates, additional data was obtained via Island Health, Statistics Canada, and the Ministry of Health (MoH). Island Health reports on various health statistics across Vancouver Island in specific geographic areas called "Local Health Areas" (Island Health, 2013, para. 1).

In addition to Statistics Canada data, interviews were conducted with nine CFSC and CGC members to build an in-depth understanding the CFSC's strengths and core competencies. Expert interviews were also conducted with representatives from two food security organizations external to the CVRD: PEI Food Exchange and Depot Alimentaire NDG.

Situation Analysis Structure

The situation analysis is organized into six sections. First, a socioeconomic profile of the CVRD is presented and discussed to provide context about the population of the CVRD. The goal of the socioeconomic profile is to provide the CFSC with important information about the CVRD population and present food insecurity proxy indicators to form a better understanding of the problem. Second, CVRD community food assets for four key municipalities are mapped and reviewed to understand the current food assets available to the public. More generally, the food asset map provides the CFSC/CGC with information about food assets in the four key CVRD communities.

Third, current CFSC programs are identified, described, and analyzed in conjunction with the internal expert interviews. Fourth, a review of leading organizations with similar objectives as the CFSC, external to the CVRD, identifies and describes innovative programs that could be successfully delivered in the CVRD.

Fifth, private and public funding opportunities are identified, and best options are recommended based on their alignment with CFSC programs and priorities and community need. Lastly, gaps and opportunities are paired with the most economical and efficient options the CFSC could pursue to reduce food insecurity in the CVRD. Key insights from each section of the situation analysis are highlighted and presented in a condensed summary format at the end of the section.

Situation Analysis Process

Preceding each section of the situation analysis is a brief description of the steps the researchers performed to arrive at their conclusion(s).

2.3 Review of Leading Organizations with Similar Objectives as the CFSC

A review of leading food security organizations outside of the CVRD was considered necessary to achieving this project's goals. In researching successful organizations across the country, successful programs and program delivery strategies are made available to the CFSC.

Five organizations were selected to be a part of the review of leading organizations with similar objectives as the CFSC, based on their innovative program delivery and their success in their region (see section 2.5, Limitations and Delimitations, for detailed selection criteria). The organizations were found through online searches, and the researchers were specifically looking for program delivery that differed from community gardens, food literacy programs, community kitchens and food banks. The selected organizations were: Community Food Centres Canada, FoodShare, LifeCycles Project Society, PEI Food Exchange, and Depot Alimentaire NDG. The scan of these five organizations was sufficient to compile an extensive array of novel and innovative food security programs.

2.4 Expert Interviews

Two groups of expert interviews were critical to achieving the project's three main objectives. Group 1 was composed of CGC and CFSC members who volunteered to participate in the interview process. Group 2 was composed of representatives from the five food security organizations selected for the review of organizations with similar objectives as the CFSC.

All CFSC members and Judy Stafford were invited to participate in the interview process for Group 1 and nine members agreed to participate. One representative from each of the five leading food security organizations was invited for Group 2, and two agreed to participate.

In interviewing Group 1, the goal was to gain insight into the CFSC's internal context. Interviews with its members ensure a better grasp of the group's strengths, weaknesses, stakeholders, and future aspirations. In interviewing Group 2, the goal was to strengthen the project's review of leading organizations with similar objectives as the CFSC by gathering primary data concerning leading food security organizations. The goal was to access data that would not otherwise be available on organizational websites.

Expert Interview Structure

Groups 1 and 2 were interviewed for different research purposes. To collect data appropriate to each of the groups, two sets of interview questions were drafted (see Appendix A and B). For the nine participants recruited for Group 1, seven interview questions aimed to uncover the internal context of the CFSC. The questions focused on identifying stakeholders and the working group's strengths, weaknesses, and future opportunities. On the other hand, Group 2 participants were asked eight interview questions, designed to uncover the organization's successful programs and program implementation strategies.

Expert Interview Process

Group 1

The interview process for Group 1, CFSC and CGC members, began with recruitment of participants via email. The project's primary contact in the CFSC invited members to participate in an interview; members who agreed to participate put their names and email addresses forward, and indicated their preference regarding the interview medium (phone vs. email). The list of volunteers was then provided to the researchers, who followed up with each participant with a consent form and the list of interview questions.

A meeting date and time was established for those wishing to participate over the phone. On the day of the interview, the researcher called the participant. After brief introductions, each question was asked in order. The researcher took notes on a Google document throughout the interview to adequately capture responses. The participants who agreed to conduct the interview via email completed the document containing the interview questions at their convenience, before sending it back to the researchers electronically.

Group 2

Group 2 participants - representatives from the five food security organizations identified for the review of leading organizations with similar objectives as the CFSC were contacted using publicly available information. They were sent a recruitment script that outlined details regarding the project, its goals, a description of the interview process, and a consent form. Although five organizations were contacted, representatives from only two organizations responded to the invitation. One of these representatives chose to participate via email, and the other chose to conduct the interview over the phone. The interview process was then the same as Group 1.

Expert Interview Data Analysis

Interview data analysis differed between Groups 1 and 2. For Group 1, responses were examined per question across all participants to highlight themes and differences within the group. For Group 2 interview responses, the goal was to identify interesting programs and suggestions from peer organizations. Hence data was paraphrased and reported in the research by organization. Due to the poor uptake of interview participants, data for three organizations was collected exclusively online, via the organization's official websites.

2.5 Limitations and Delimitations

Literature Review

Limitations

A large segment of the Canadian academic literature regarding food insecurity was authored or co-authored by Dr. Valerie Tarasuk. While Tarasuk has contributed significant insights into the current state of food insecurity in Canada, her work expresses a strong opinion on the validity and effectiveness of certain programs, in particular food banks or programs falling within the

household improvements and supports model. As a result, a significant portion of the Canadian academic literature on food insecurity is critical of the programs delivered by most Canadian food security organizations.

Another limitation arising out of the literature review was a lack of objective academic research analyzing the British Columbia Government response to food insecurity in the province. Certainly, there was government literature demonstrating the Government's assessment of the food insecurity problem; however, there was a lack of academic literature thoroughly analyzing the Government's response and its effectiveness over the past 10-15 years.

Delimitations

The food security/insecurity literature is broad and voluminous; to ensure relevant literature was used in the review, preference was given to research published over the past 10-15 years, and research that focused on food insecurity in the Canadian context. See “Literature Review Process” for key terms used by the researchers to locate relevant research.

Socioeconomic Profile and Community Food Asset Mapping

Limitations

Access to raw food insecurity data (microdata) for the CVRD was a limitation of the socioeconomic profile. The NHS does not contain this information and the researchers were only able to retain limited raw food insecurity data from the Canadian Community Health Survey (CCHS). Moreover, B.C. has been inconsistent in measuring food insecurity over the past decade; for example, the B.C. Government did not measure food insecurity in B.C. in 2013 and 2014 (Public Health Association B.C., 2016, para. 7). The researchers had to rely on secondary research to understand the scale and scope of food insecurity in CVRD. Furthermore, Statistics Canada publishes the NHS every five years; in 2017, 2016 NHS data started to be released. Statistics Canada releases data in a staggered fashion; that is, all NHS data is not published at the same time but usually over the course of a year. The researchers strived to use the most recent NHS data to inform the situation analysis, specifically the socioeconomic profile. However, because the 2016 NHS data has not been released in its entirety, 2011 data was primarily referenced to ensure consistency of analysis.

Furthermore, the ability of the researchers to identify food assets was dependent on the food asset's digital footprint; that is, if a food asset did not have an online presence, then it may have been excluded during the mapping process.

Delimitations

With respect to community food asset mapping, the researchers only mapped the food assets available in Duncan, Ladysmith, Lake Cowichan, and North Cowichan. Identifying every food asset in the CVRD is a massive undertaking and beyond the scope of this project.

Review of Leading Organizations with Similar Objectives as the CFSC

Limitations

Only two representatives of the five organizations invited to participate in the project's review of leading organizations with similar objectives as the CFSC agreed to participate in an informational expert interview. This limitation had a significant impact on the research. In effect, gathering organizational data that is not typically publicly available - such as program successes and failures or funding strategies and partners - was considered instrumental in developing recommendations for the CFSC.

To mitigate this lack of data, the researchers focused their attention on web pages and publicly available information. While this approach resulted in a significant pool of innovative food security programming, it lacked detail that could have been useful to the CFSC.

Delimitations

Five organizations were selected as part of the review of leading organizations with similar objectives as the CFSC: Community Food Centres Canada, FoodShare, LifeCycles Society Project, PEI Food Exchange, and Depot Alimentaire NDG.

The researchers selected organizations that deliver programs not currently offered in the CVRD (specifically programs that differed from community gardens, food literacy programs, community kitchens, and food banks), that are well-established in the field in their region, or that offer programs identified by the CFSC as an aspiration.

Specifically, Community Food Centres Canada was selected due to its influence in the field of food security in Canada. Community Food Centres Canada is involved in food security networks across the country, and the researchers hoped to gain insight into what makes collaboration successful, and what elements are critical to successful program delivery in the field of food security.

FoodShare was selected due to its innovative range of program delivery. In effect, this long-standing organization currently offers 24 different programs (Foodshare, n.d., Programs), many of which are not currently available to communities in the CVRD.

Finally, the remaining three organizations were selected from Community Food Centres Canada's list of Good Food Organizations (Community Food Centres Canada, 2017, Good Food Organizations). This list was an objective measure of an organization's success in the field. In particular, these three organizations were selected on the basis of geographical diversity and the novelty of their programs.

3.0 LITERATURE REVIEW

3.1 Introduction

The literature review is organized into three sections. The first section discusses the definition of food insecurity as well as the evolution of the food security concept over the past several decades. Moreover, the difference between household and community food security is explored.

The second section examines key components of food insecurity such as measurement, predictors, and expressions. Moreover, the Canadian and provincial Governments' response to food insecurity is analyzed from a policy perspective in this section. Lastly, community-based models to reduce food insecurity are reviewed and evaluated in the third section of the literature review.

3.2 Defining Food Security

What is Food Security?

Food security is a multi-faceted concept that first originated in the mid-1970s, a time of global food crisis (Food and Agriculture Organization of the United Nations, 2003, pp. 3, 26) marked by recurrent famines in the Sahel and Bangladesh, and the failure of the Green Revolution to achieve sustainable and equitable food security across the world (Westengen & Banik, 2016, pp. 115, 117).

Many definitions exist for this concept, with some literature claiming the existence of as many as 200 separate definitions relating to food security (Food and Agriculture Organization of the United Nations, 2003, p. 3; Shaw & Clay, p. 57). This variety of definitions is because food security and insecurity are expressed and understood differently at different levels of analysis, starting from the individual level, up to the household, the region/community, the nation, and finally on a global scale (Dietitians of Canada, August 2016, p. 4; Food and Agriculture Organization of the United Nations, 2003, p. 28). While these five levels of food security analysis are the most commonly referred to in the literature, Power also adds a sixth level of analysis, which she coins “cultural food security” (Power, 2008, p. 95). This level of analysis is examined later in this section.

When examining food security at the *global* level, the influence of international conflict and war, international markets, international organizations, environmental degradation, human rights abuses, and other global-scale issues are considered (Shaw & Clay, p. 57; p. 59). At the *national* level, the effects of social and economic policy, or the importance of investment in the agri-food sector are considered, among other forces at play (Dietitians of Canada, 2005, p. 2). At the *community or regional* level, the community's food production sustainability, the degree of community self-reliance, or the equality of food access for everyone in the community are considered (Slater, 2007, p. 1). Finally, at the *household* and *individual* levels the focus is shifted

to individuals' physical and mental health, their income levels (Dietitians of Canada, 2005, p. 2), other socioeconomic determinants of poverty, among other relevant measures and determinants.

Naturally all levels of analysis influence one another, as no program or policy exists in a vacuum. But each level stresses different causes, measurements, and expressions of the issue, hence resulting in the recommendation of a variety of solutions that do not always align, and a variety of definitions.

In light of the complexity of the topic, the specific considerations that come into play at each level of analysis, and the CFSC and CGC's realm of influence, this report narrows its focus to the individual, household, and regional/community levels, while still touching upon the cultural and national levels. The issue of global or world food security is periodically addressed for contextual purposes, but is out of scope for this report.

The Evolution of Food Security Definitions: From One to Three Dimensions

Official definitions of food security have evolved over time, dependent upon historical context. The 1974 World Food Summit definition of food security was as follows: “the availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices” (Food and Agriculture Organization of the United Nations, 2003, p. 27). This definition encompasses an essential consideration for food security: the *availability* of food, dependent upon the production and supply of food (Power, 2008, p. 96). Availability of food emerged as the initial pillar of food security due to historical context: advances in agricultural production in the Western world increased food supply (Barrett, 2010, p. 825), all the while food crises were rampant in the “developing world.” A belief that food crises would be eliminated if food was produced in enough quantities paved the way for many international food supply policies and programs, including those that existed under the umbrella of the Green Revolution. This early definition evolved over time as more disciplines began to examine this issue and as the causal link between food supply and food security began to blur.

Over a period of twenty years the definition of food security became more complex. At the 1996 World Food Summit, food security was defined as follows: “[f]ood security, at the individual, household, national, regional and global levels [is achieved] when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (Food and Agriculture Organization of the United Nations, 2003, p. 28). This definition reflects two important shifts in understanding food security. First, it brings into scope the different levels at which food insecurity can be understood, from individual to global. Second, it highlights a new dimension of food security that was not addressed by its first iteration: the importance of *access* to food, as opposed to strictly *availability* of food. This concept becomes critical as evidence shows that despite increased food production capabilities, food insecurity remains rampant. Availability of food does not ensure the access to food, which depends upon the economic ability of individuals and

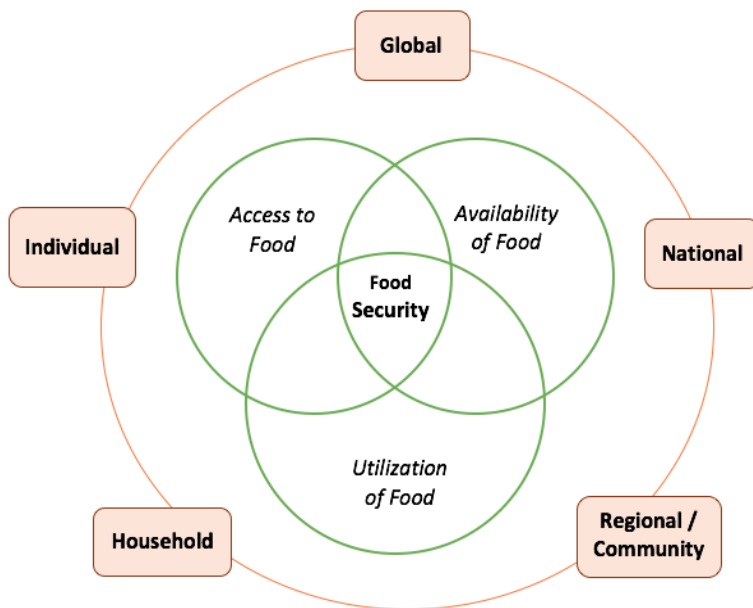
households to purchase food in the market (Power, 2008, p. 96). Access reflects the demand side of food security, and this lens highlights food security’s “close relationship to poverty and to social, economic, and political disenfranchisement” (Barrett, 2010, p. 825).

Finally, a third dimension of food security, the *utilization* of food, has also come to be reflected in food security definitions. Utilization of food refers to the ability of individuals to make healthy food selections in their local environments (Power, 2008, p. 96), or in other words, how individuals and households can “make good use of the food to which they have access to” (Barrett, 2010, p. 825). This lens of food security is often associated with definitions of community food security (CFS), which, according to Dietitians of Canada, exists “when all community residents obtain a safe, personally acceptable, nutritious diet through a sustainable food system that maximizes healthy choices, community self-reliance, and equal access for everyone” (Slater, 2007, p. 1).

The 1996 FAO definition of food security is widely accepted internationally, and indeed this is the definition that was endorsed by the Federal Government of Canada (Power, 2008, p. 95), including in its 1998 Action Plan for Food Security, an action plan that was developed in response to the World Food Summit of 1996 (Canada, 1998, p. 9).

The diagram (Figure 3) below visually summarizes the current understanding of food security.

Figure 2. Food Security Visual Summary



Household versus Community Food Security

In examining the literature, alternative perspectives come to light between research that focuses on household food insecurity (HFI) and research that considers community food security (CFS).

In a report published by PROOF, Tarasuk, Mitchell, and Dachner define household food insecurity (HFI) as “the inadequate or insecure access to adequate food due to financial constraints” (2014, p. 2). This definition of HFI is cited across Tarasuk’s published works, and is also referred to by others including Olabiyi and McIntyre (2014) and the Dietitians of Canada in their 2016 Household Food Insecurity Background Paper (Dietitians of Canada, 2016, p. 3). To expand upon this definition, Tarasuk differentiates HFI from the FAO definition by specifically contrasting it to CFS. In effect, she establishes that HFI “can be differentiated by the focus on problems of food access rather than concerns related to the organization of our food system” (Tarasuk, 2005, p. 299).

In contrast, according to Dietitians of Canada, CFS exists “when all community residents obtain a safe, personally acceptable, nutritious diet through a sustainable food system that maximizes healthy choices, community self-reliance, and equal access for everyone” (Slater, 2007, p. 1). Power understands CFS as encompassing all three dimensions of food security: access, availability and utilization (Power, 2008, p. 96). In their 2005 position paper, Dietitians of Canada appear to understand CFS as an alternative to food security (2005, p. 2). CFS, like food security, thus becomes an ideal that we can strive for, a situation yet to be achieved.

For the CGC, food security means that “all members of our community have access to enough nutritious, safe, ecologically sustainable, and culturally appropriate food at all times” (Cowichan Green Community, 2010, p. 5). The organization’s strategic plan highlights their vision of a Cowichan region growing and eating locally produced food in a way that is ecologically sustainable and economically viable, all the while creating a food culture that celebrates eating locally and eating together (Cowichan Green Community, 2010, p. 6). The CGC definition of food security captures elements of the FAO definitions, while defining and scoping food security through the lens of their own community. This shapes their scope, their goals, the programs they deliver, and their assessment of success.

How an issue is framed determines what action is taken to resolve it. In light of the literature and in consideration of the purposes of this report, HFI is understood as a household-specific problem caused primarily by income insecurity, while CFS is understood as a goal, or a type of food security, that communities can move towards. As per this understanding CFS doesn’t limit its programming to individuals and households who suffer from food insecurity, but attempts to improve food security for all individuals and households in the community.

Defining Cultural Food Security and the Importance of Traditional Foods

While the current definitions of food security touch upon the access, availability and utilization aspects of food security, from the individual to the global level, they also specify the notion that

food accessed must be “personally acceptable” (Slater, 2007, p. 1), meet “food preferences” for “all people” (Food and Agriculture Organization of the United Nations, 2003, p. 28), or be “culturally appropriate” (Cowichan Green Community, 2010, p. 5). These considerations in the definition point to the existence of a sixth level of analysis for food security, beyond the global, national, community, household and individual, which Power coins “cultural food security” (Power, 2008, p. 95). “Culture” is a broad concept that is relevant to all people, but this report focuses on the specific experience of Aboriginal people.

Food insecurity disproportionately affects Aboriginal communities in Canada. Indeed, it is estimated that 33% of off-reserve Aboriginal households in Canada experience food insecurity compared to approximately 9% of households in the rest of Canada (Skinner, Hanning, Desjardins, & Tsuji, 2013, p. 1472). In addition, it is estimated that 41% of Aboriginal households on-reserve in B.C. are food insecure (Elliott, Jayatilaka, Brown, Varley & Corbett, 2012, p. 2), pointing to the existence of particular barriers and challenges for Aboriginals on-reserve. These disproportionate food insecurity rates have been associated with the fact that Aboriginal households tend to experience higher levels of poverty, are often multi-child households, have a lower level of education or labour force participation, higher reliance on social assistance, and larger numbers of female lone-parent households (Willows, Veugelers, Raine & Kuhle, 2008, p. 1150), which are all considered to be predictors of food insecurity (Buck-McFayden, 2015, p. 140). In conjunction with these high rates of food insecurity, Aboriginal people in Canada also tend to have generally poorer health than the rest of the population (Willows, 2005, p. S32). Indeed, in 2009 the rate of diabetes among Aboriginal people in B.C. was 40% higher than in the rest of the population, while prevalence of heart disease was 25% higher than in the general population (Elliott et al., 2012, p. 2). These statistics highlight the unique food security experiences and challenges of Aboriginal people, indicating that food policies need to pay particular attention to the specific needs, worldviews, and ontologies of Aboriginal people in Canada (Power, 2008, p. 95) both on and off-reserve. In order to do so, a better understanding of the particularities of food security for Aboriginal people in Canada is needed.

Understanding what food security means for Aboriginal people is difficult due to the diversity of Aboriginal people in Canada (Power, 2008, p. 96). Experiences of food insecurity vary widely, in particular according to age, gender, geographic location in the country, whether an individual is living in an urban, rural, or remote community (Power, 2008, p. 96), or if an individual is living off or on-reserve (Willows et al., 2008, p. 1150). Maintaining this diversity of experience in mind, the literature brings to light a common theme: the notion that, although not measured by Canadian surveys such as the Household Food Security Survey Module (Skinner, Hanning & Tsuji, 2013, p. 35), the access, availability and utilization of *traditional* foods as well as the stability of *traditional food systems* are critical determinants of food security for Aboriginal people (Schuster, Wein, Dickson & Chan, 2011, p. 287; Power, 2008, p. 95). This entails the ability to harvest, share, and consume traditional foods that are “key to cultural identity, health and survival” (Power, 2008, p. 95).

Why is the availability, access, and utilization of traditional food so important? Evidence suggests that traditional foods contain more nutrients and less fat, sodium and carbohydrates than market foods, and contribute to an improved dietary quality (Elliott et al., 2012, p. 2). Beyond the nutritional benefits of traditional food, evidence also demonstrates that harvesting and using traditional food can contribute to improved physical fitness (Lambden, Receveur, Marshall & Kuhnlein, 2006, p. 315). Put together, these qualities of traditional food translate into improved health outcomes for Aboriginal people. In addition, in all societies, food preferences form an important part of cultural heritage (Lambden et al., 2006, p. 310). By means of interviews of Yukon First Nations, Dene/Métis and Inuit women in 44 Arctic communities, Lambden et al. highlight the prevalence of responses such as: [traditional food] “keeps our tradition”, “brings people together” and “involves family in food preparation” (2006, p. 312). For many Aboriginal people, traditional food and traditional food systems “retain significant symbolic and spiritual value, and are central to personal identity and the maintenance of culture” (Power, 2008, p. 96).

3.3 Components of Food Insecurity

The Origins and Current State of Food Insecurity in Canada and British Columbia

Canada’s and British Columbia’s response to food insecurity has been driven by individuals and organizations at the community level. Several decades ago, a small party of food advocates formed the “People’s Food Commission.” Necessitated by the precarious economic landscape of the late 1970s and early 1980s, this citizen-led group endeavored to improve Canada’s food system and the policy schema that supported it (Koc, MacRae, Desjardins, & Roberts, 2008, p. 127; Food Secure Canada, 2015, p. 8). The Commission’s concluding report, “The Land of Milk and Honey” proposed several recommendations to improve Canada’s food system; however, the Commission’s recommendations were never implemented (Koc et al., 2008, p. 127).

Tarasuk (2005), Riches (2002), and Koc et al. (2008) assert that the effects of food insecurity became apparent in Canada in the early 1980s during the economic recession when charities across Canada developed food assistance programs to counter hunger (Tarasuk, 2005, p. 299; Riches, 2002, p. 651; Koc et al., 2008, p. 127). During the 1980s, over 18% of Canadians were living below the poverty line, and although this number fell to 13.6% near the end of the decade (Tarasuk & Davis, 1996, p. 72), the demand for food bank services did not decline with it (Tarasuk, 2001, p. 488). In fact, demand for food bank services increased during the 1990s as poverty escalated (Tarasuk, 2001, p. 488). Over the past three decades, Canadian citizens and government alike have relied on food banks (Koc et al., 2008, p. 127), non-profits, and community-led initiatives to address the main effect of food insecurity – hunger.

Today, 12% of Canadian households experience some type of food insecurity (Tarasuk et al., 2014, p. 2). According to research by PROOF, 3.7% of Canadians are marginally food insecure, 5.5% are moderately food insecure, and 2.7% are severely food insecure (Tarasuk, Mitchell, & Dachner, 2014, p. 9). Moreover, Food Banks Canada’s HungerCount consistently reports increasing national food insecurity rates (Food Banks Canada, 2016, p. 2). Indeed, Food Banks

Canada acts as a key link between approximately 3,000 food organizations across Canada that help to feed 800,000 citizens every month (Food Banks Canada, 2014, para. 5).

The academic and grey literature indicate that the Federal Government is aware of the food insecurity problem; however, Canada does not have a national food policy (Buck-McFadyen, 2015, p. 140; Ministry of Health, 2013, p. 18). Moreover, as Tarasuk (2015) and Buck-McFadyen (2015) identify, there are no federal programs that *directly* address Canada's food insecurity problem through legislation, regulations, or government-funded programs (PROOF, 2017, para. 12; Buck-McFadyen, 2015, p. 140).

In 2016, the Federal Government committed to developing a national food policy and a coordinated strategy to address food insecurity in Canada (Food Secure Canada, 2016, para. 1). Drawing on recommendations outlined in Food Banks Canada's 2016 HungerCount, the Federal Government stated their intention to improve access to employment insurance, address poverty, develop a national housing strategy, and implement a child benefit program (Food Secure Canada, n.d., para. 13; HungerCount, 2016, p. 12). In 2016, Agri-Food Canada was tasked with creating a national food policy that promotes healthy living (Food Secure Canada, 2016, para. 1). The literature suggests growing public pressure from national, international, and community organizations prompted the Federal Government to take meaningful action to reduce food insecurity across the country after years of neglect.

Measuring Food Insecurity

To determine what regions, communities, and households are food insecure, researchers must be able to measure food insecurity accurately; unfortunately, measuring food insecurity is very challenging. The literature indicates food insecurity is difficult to measure because it embodies many dimensions (Coates, 2013, p. 188); indeed, food insecurity has social, economic, and health components. What's more, food insecurity is analyzed and understood via different hierarchies; typically, food insecurity is framed as an availability, access, or utilization problem (Barrett, 2010, p. 825). Framed as an availability, or a "supply" problem, food insecurity might be measured at the regional or national level using quantitative macroeconomic indicators (Jones, Ngure, Pelto, & Young, 2013, p. 484) such as the production of food commodities or food imports. However, if food insecurity is measured at the household level, then subjective measures using household surveys are typically employed to understand individual and household experiences with a lack of food (Jones et al., 2013, p. 497). Given the multifaceted constitution of food insecurity, there is no single measure that encapsulates all elements of the phenomenon. Webb, Coates, Frongillo, Rogers, Swindale, and Bilinsky (2006) posit food security measurement is constantly evolving and Carletto, Zezza, and Banerjee (2012) point out that there is no consensus amongst experts about how to best measure it (Webb et al., 2006, p. 1404; Carletto et al., 2012, p. 37).

The literature reveals extensive measures, benchmarks, and indicators to measure food insecurity. Because of its complexity, researchers often employ a combination of direct and

indirect measures to assess food insecurity in B.C. (PHSA, 2007). Direct measures are typically subjective and measure household food insecurity experiences; for example, the Canadian Community Health Survey measures Canadian citizens' experiences with food insecurity (PHSA, 2007, p. 14). In contrast, indirect, or "proxy" measures are objective and measure food insecurity using more general quantitative data such as household income (Jones, et al., 2013, p. 497) or low-income cut-offs and welfare statistics (PHSA, 2007, p. 14).

A key theme in the literature is the need for more holistic measurement of food insecurity (Coates, 2013) and a shift away from using proxy measures towards employing direct measures (Webb et al., 2006, p. 1405). Coates (2013) argues for an expansive measurement approach that uses multiple indicators to assess the various dimensions of food insecurity (p. 192). Using a collection of indicators ensures researchers go beyond simple proxy measures towards a comprehensive understanding of food insecurity that assesses the broader socioeconomic and health impacts of the phenomenon. Furthermore, because households can be economically stable *and* food insecure, a more holistic measurement approach ensures individual household experiences are captured and reflected in national and provincial surveys.

The Canadian Government first began measuring household food insecurity in the early 1990s (Tarasuk, 2005, p. 301). Prior to this, food bank statistics were the primary measure of food insecurity in Canada (Tarasuk, 2001, p. 487). Today, household food insecurity in Canada and B.C. is measured and monitored using the Household Food Security Survey Module (HFSSM) of the Canadian Community Health Survey (CCHS) (Statistics Canada, 2012). The HFSSM primarily focuses on access and availability measures but also assesses food utilization and is based on the United States' food insecurity measurement approach (Statistics Canada, 2012). The module measures Canadian household experiences with food insecurity over the past 12 months and contains 18 questions about food insecurity experiences (Statistics Canada, 2012). Based on responses to these questions, households are designated marginally, moderately, or severely food insecure. This direct measure of food insecurity indicates government is adopting a subjective, comprehensive understanding of food insecurity instead of using less exact proxy measures. Virtually all current food insecurity research in Canada employs food security data obtained via the CCHS.

Recently, the B.C. Provincial Health Services Authority (PHSA) developed 10 indicators that health authorities can use at the "health authority level" to measure and assess food insecurity (PHSA, 2010, p. 3). These indicators fall into four categories including (Ministry of Health, 2014, p. 20):

- Organizational commitment to food security;
- Community capacity;
- Individual and household food security; and,
- Local and regional production

Directly relevant to the situation analysis in this report, the community capacity indicators focus on quantifying the number of community gardens, community kitchens, food banks, and food charters present in a community (PHSA, 2010, p. 13; Ministry of Health, 2014, p. 20). By quantifying the number of Community Food Action Initiative (CFAI) supported activities, health authorities can gauge a community's capacity to address food insecurity (PHSA, 2010, p. 13).

The PHSA's (2010) document "Implementing Food Insecurity Indicators" also highlights several indicators used to measure household and individual food insecurity in B.C. (PHSA, 2010). For example, the "median income series" of indicators provides health authorities with information about the financial hardship of acquiring a nutritious food basket in B.C. (PHSA, 2010, p. 26). Essentially, by determining the annual cost of a nutritious food basket for various family types and dividing this cost by; for example, the median pre-tax income for a specific family type, the PHSA suggests they can determine the cost of nutritious eating (PHSA, 2010, p. 26).

Food Insecurity Associations: The Impact of Income, Sociocultural Background, and the Built Environment

Correlation vs. Causality

Several socioeconomic characteristics have been correlated or *associated* with food insecurity in the literature. For example, being aboriginal or black is associated with a greater likelihood of being food insecure (Ministry of Health, 2014, p. 6). However, racial identity does not *cause* or lead to food insecurity; nor does being uneducated lead to food insecurity. Rather, uneducated segments of the population tend to earn less than educated segments, and Aboriginal and black people in Canada have experienced systemic racism for decades which has impacted their socioeconomic status and earning power. In these examples, broader forces impact these socioeconomic groups' income and ability to access food.

Correlation means there is a relationship between two variables, a connection that indicates when there is a positive or negative change in one variable, a change is observed in another variable (Trochim, 2006, para. 1). In contrast, causation means that a specific change in one variable is a direct result from the change in another (Trochim, 2006, para. 1). When establishing a causal connection, research studies are designed to rule out confounding variables; in correlational studies, this is not the case.

The food insecurity literature in the following sections explore correlations between food insecurity and other socioeconomic phenomena to understand how food insecurity impacts certain populations and what populations are most likely to be vulnerable to food insecurity. In doing so, holistic solutions can be developed to counter the effects of this problem.

Food security as an income problem

The main predictor of food insecurity discussed in the literature is individual and household income (PROOF, 2017, para. 1; Tarasuk, 2005, p. 303). Income-related household food insecurity is defined as the “inadequate or insecure access to adequate food due to financial constraints” (Olabiya & McIntyre, 2014, p. 1). Essentially, if food is available in the marketplace, but households cannot afford to purchase it, there is an access, or income problem.

In a widely cited study assessing contributing factors to household food insecurity using direct measures, Olson and Rauschenbach (1997) found that low income was a key factor to household food insecurity (Olson & Rauschenbach, 1997). Olson and Rauschenbach (1997) found that household savings and asset ownership made individuals and rural households less likely to experience food insecurity (Olson & Rauschenbach, 1997, p. 6). Similarly, in Chang et al.’s (2014) study of household finance and food insecurity, results indicate that if a household does not have sufficient liquid assets to cover rent for several months, they were more likely to be food insecure in comparison to those that did (Chang et al., 2014, p. 505). Moreover, households experiencing financial hardship and restricted liquidity experience higher rates of food insecurity across all income brackets (Chang et al., 2013, p. 508). In Canada, strong links between financial constraint and unemployment are associated with food bank usage (Tarasuk, 2001, p. 488). And Canadians relying on social assistance are susceptible to food insecurity (Tarasuk et al., 2014, p. 1407). Indeed, in 2012, 70% of households dependent on social assistance as their primary source of income were experiencing some form of food insecurity (Tarasuk, et al., 2014, p. 1408; PROOF, 2012, para. 5).

Classified as a “prime risk factor” British Columbia health authorities focus on income as the primary driver of food insecurity in the province (PHSA, 2007, p. 26). An increased risk for food insecurity is correlated with not owning one’s dwelling and low income in the Canadian Community Health Survey (CCHS, 2004, Cycle 2.2). It is for this reason, that increases to social assistance and livable income programs are key recommendations found in Food Banks Canada HungerCount reports (Food Banks Canada, 2016, pp. 12,14). Similarly, Sriram and Tarasuk (2015), and Koc et al. (2008) stress the importance of policy as a key approach to reduce food insecurity across the board in Canada (Tarasuk, 2015; Koc et al., 2015). Indeed, Quebec has the lowest food insecurity rates in Canada, but also has the most social supports (Olayemi & McIntyre, 2014, p. 444).

Although low income is the main predictor for household food insecurity, not all higher-income households are food secure. There is a small, but growing body of research, suggesting higher-income households (relative to low income households) can experience food security (Olabiya & McIntyre, 2014). Olabiya and McIntyre (2014) found that unforeseen life events, or unforeseen external events (e.g., economic downturns) contribute to a higher-income household’s risk of becoming food insecure (Olabiya and McIntyre, 2014, p. 442). Employing data from 2005 to 2010 from the Canadian Community Health Survey, Olabiya and McIntyre (2014) found that 16% of Canadian food insecure households are not considered low income (Olabiya & McIntyre,

2014, p. 436). Using a household income of \$60,000/year as the benchmark for higher income, Olabiya and McIntyre found that higher income food insecure households reported more family members, renting vs. owning, lower levels of education, and chronic health conditions (Olabiya & McIntyre, 2014, p. 437). Chen and Che (2001), reported that 14% of middle income Canadian households experienced food insecurity in their study of food insecurity in Canadian households using 1998-1999 data from the National Population Health Survey (Che & Chen, 2001, p. 13). Many additional factors in Canada and British Columbia are correlated with food insecurity. A recurrent discussion in the literature emphasizes that households headed by a single female are more likely to be food insecure in comparison to households headed by a male or two parents (CCHS, 2004, Key Findings). In 2011, 35% of Canadian households with a lone female parent were food insecure and 8.9% of these households were severely food insecure (PROOF, 2011, p. 10). Buck-McFadyen (2015) offers detailed insight into the experiences of food insecure women living in rural B.C. and found that women rely heavily on their communities, food skills, and food knowledge to overcome unemployment and social assistance barriers (p. 3). Olson and Rauschenbach (1997) report that if single female parents have access to savings, they are less likely to report being food insecure (p. 14). The correlation between single motherhood and low income is very high; however, single motherhood is not a distinct predictor of food insecurity. That is, if the poverty variable is controlled in a given study, it is *unlikely* that single motherhood will be associated with food insecurity.

Other sociocultural factors highlighted in the literature associated with food insecurity include being black or Aboriginal (PROOF, 2014, p. 13). Tarasuk et al. (2012) note that 29.4% of black Canadian households are food insecure and 25.7% of Aboriginal Canadian households are food insecure (PROOF, 2014, p. 3). Food insecurity amongst Aboriginal people in Canada is a highly complex issue partially because conceptualizations of food insecurity have failed to consider the Aboriginal cultural perspective (Power, 2008, p. 95). That is, the very definitions of food insecurity have failed to take into consideration Indigenous peoples' access to cultural foods (Power, 2008, p. 96). Willows et al. (2008) found that Indigenous households are 2.6 times more likely than non-Indigenous households to be food insecure, even after controlling for "risk factors" (Willows et al., 2008, p. 1152). As noted above, Aboriginal people and blacks are more likely to have low income, which is the main predictor of food insecurity.

The literature suggests that the physical composition, structure (built environment), and location of a community can restrict the movement of individuals and households and hamper their ability to purchase food (Ministry of Health, 2013, p. 12-13). The literature defines the built environment as a "range of physical and social elements that make up the structure of a community" including "housing form, roads and footpaths, transport networks, shops, markets, parks and other public amenities, and the disposition of public space" (Weich et al., 2001, p. 284). The impact of the built environment on food insecurity is not a prevalent discussion in the literature and Perez, Roncarolo, and Potvin (2017) point out that little research has established a firm link between the two phenomena (p. 50). However, in their 2017 study, Perez et al. found that the "local food environment [was] correlated with the severity of food insecurity

independent of their [research] participants' socio-demographic characteristics and health status” (p. 52)

Food swamps and food deserts are discussed in the literature as potential contributors to food insecurity from the access and utilization dimensions (Ministry of Health, 2013, p. 12-13). Food swamps are geographical areas where the majority of available food lacks adequate nutrition (Ministry of Health, 2013, p. 13). For example, low income neighborhoods often have a plethora of fast food restaurants with little access to fresh food and vegetables. In contrast, food deserts are geographical areas almost completely lacking fresh food and vegetables (Ministry of Health, 2013, p. 13). There does not appear to be convincing evidence for the existence of food deserts in B.C. and Health Canada points out that more research is needed into food environments in Canada; in particular, northern rural environments (Health Canada, 2013).

Expressions and Impacts of Food Insecurity

There are a multitude of expressions and impacts of food insecurity that range from mild to severe. In the most severe cases of food insecurity, loss of life is possible. However, the impacts of food insecurity are not typically visually apparent in the population of a developed country. Moreover, food insecurity was only recently measured and tracked on a national and provincial scale in Canada and B.C., further shielding it from the view of government, policymakers, and citizens alike (PROOF, 2017, para. 3). The incorporation of the food insecurity module into the CCHS was an important first step towards bringing the expressions and impacts of food insecurity to light. Food insecurity is a subjective experience and indirect measures and indicators of the phenomenon are insufficient to capture its effects on individuals, households, and communities.

Besides hunger, the most prevalent impact of food insecurity reported in the literature are negative health outcomes. These outcomes can be physical or mental (PROOF, 2016, p. 2) and are intricately intertwined; furthermore, food insecurity is associated with several diseases and medical conditions (Ministry of Health, 2013, p. 9). Much of the food insecurity and health research focuses on establishing a connection between food insecurity and obesity, diabetes, and other cardiovascular diseases (Li, Dachner, & Tarasuk, 2016, p. 2). Correlating food insecurity with costly, but treatable diseases, may convince policymakers to address food insecurity to reduce healthcare costs to taxpayers.

Prevalent in the literature is the relationship between food insecurity, obesity, and low household income among Aboriginal populations. Bhawra, Cooke, Guo, & Wilk (2017) found that off-reserve Aboriginal children who were food insecure were more likely to be obese and Bhawra et al. (2015) concluded that “low income is an important risk factor for obesity among Aboriginal peoples” (Bhawra et al., 2017, para. 6; Bhawra et al., 2015, p. 1). In Bhawra et al.’s (2015) study, research participants suggested that financial barriers restricted them to purchasing food that was “energy-dense” and “nutrient-poor” because it was less expensive (Bhawra et al., 2015, p. 1). However, despite the above findings, Tarasuk (2005) points out that the relationship between

food insecurity, obesity, and being overweight (regardless of ethnic background) is controversial and posits that better data and long-term studies are required to fully understand the association between these variables in the “Canadian context” (Tarasuk, 2005, p. 302).

Buck-McFadyen (2015, p. 142) and Tarasuk and Beaton (1999, p. 112) report that individuals and households often feel a great deal of shame about using food banks and being on welfare. Conducting in-depth interviews with several women living in remote, rural environments in southern Ontario revealed elevated levels of emotional pain, distress, and poor mental health when experiencing and managing food insecurity (Buck-McFadyen, 2015). Sadly, the pressure of not being able to feed oneself or family also led to domestic problems (Buck-McFadyen, 2015, p. 142). Similarly, Willows et al. (2011) found that food insecurity was associated with stress and poor general health. Feeling detached from community is a key association in Willows et al.’s research, as nearly all supports for food insecurity occur at the community level and require engagement from individuals and households in need. Indeed, community supports were discussed in Buck-McFadyen’s study with respect to their importance in dealing with food insecurity in rural environments (Buck-McFadyen, 2015, p. 143). Food insecurity may lead households and individuals to detach from their community which is detrimental as the opposite action is required to achieve support. Tarasuk et al. (2001) point out that developing a sense of community and establishing a community support network is important for marginalized groups experiencing food insecurity (Tarasuk et al., 2001, p. 495).

Over the past decade, mental health has received a great deal of attention from policymakers in Canada and is a prevalent conversation in the food insecurity literature. A 2016 PHSA report found that 24.1% of Canadians living in food insecure households had an anxiety or mood disorder, compared to 9.4% in food secure households (PHSA, 2016, p. 26). Additionally, Willows et al. (2011) report higher rates of stress, general life dissatisfaction, and poor mental health in off-reserve Canadian Aboriginal people experiencing food insecurity (Willows et al., 2011, p. 15). The above research and supporting statistics demonstrate there is a relationship between mental health and food insecurity; however, determining the causes of mental illness is highly challenging. Moreover, mental illness likely impacts individual and household ability to obtain a steady income, impacting food security. Therefore, more research is needed to clarify and understand food access and diet’s impact on mental health and mental health’s impact on a person’s earning power.

A key theme in the literature is the association between social determinants of health, food insecurity, and health outcomes. Both the academic and grey literature stress that health is a broad concept influenced and determined by education, housing, employment, income, food, family, and community. And without good health, one cannot obtain employment, get an education, and improve their economic situation. Indeed, health is fragile and dependent on food security which is reliant on one’s ability to obtain income and secure resources. Understanding the interconnectedness and the dynamics of these phenomena is important for policymakers to consider when developing interventions in any one policy arena, be it housing, social assistance, or employment.

The impacts on health from food insecurity can also be understood more broadly. New research by Tarasuk et al. (2015) posits that food insecurity is predictor of healthcare costs and healthcare costs are elevated in households that are experiencing moderate and high levels of food insecurity (p. 4). If food insecurity is contributing to rising healthcare costs, food insecurity is impacting Canadians' taxes. However, it is important to consider the possibility that high household healthcare costs might be crowding out food budgets.

Canada's Response to Food Insecurity

The question provoked by the literature is why, despite compelling evidence of food insecurity in Canada, has the Federal Government failed to take meaningful action to reduce it? The key explanation highlighted across the literature is that food banks have kept food insecurity and hunger off the national policy agenda (Tarasuk, 2014; Koc et al., 2008; Riches, 2002; Tarasuk, 2005). Tarasuk (2001) and Riches (2002) argue that Canadian food banks have normalized and "institutionalized" hunger over several decades (Tarasuk, 2001, p. 489; Riches, 2002, p. 653). Indeed, the main solution to food insecurity across Canada has been the creation of food banks (Power et al., 2014, p. 185). Although food banks are a quick and direct response to the problem, a common theme in the literature is that reliance on food banks to address food insecurity has done a disservice to vulnerable Canadians (Tarasuk et al., 2014, p. 1413) as food banks do not address the root causes of food insecurity. Food banks are a temporary solution and simply redistributing food does not address the underlying origins of poverty and hunger (Riches, 2002, p. 658). By framing food insecurity as a hunger and poverty issue, instead a multidimensional social disease (Roncarolo & Potvin, 2016, p. 291), food banks have contributed to the segregation of the food insecurity problem to the community level for non-profits and other community-led initiatives to address (Tarasuk & Davis, 1996, p. 73). And until food insecurity responses move "upstream" to the systemic level (Tarasuk et al., 2015, p. 434), downstream regional and community responses will not be enough to eliminate food insecurity entirely.

Another explanation for the Federal Government's failure to address food insecurity is its inability to affect certain social security areas. Koc et al. (2008) note that the Federal Government has not increased its control over "food-related levers" such as healthcare and education (Koc et al., 2008, p. 126). Instead, provincial and municipal governments must finance programs and services that directly impact food systems and security (Koc et al. 2008, p. 126); at the same time, the "levers" municipal governments have access to are limited in their ability to affect change at the systemic level (Collins et al., 2014, p. 139).

Although the Federal Government's response to food insecurity has been incomplete, it is not non-existent. Canada's 1998 Action Plan for Food Security, a response to the 1996 World Food Summit, outlined several strategies to address food insecurity in Canada. Furthermore, federal money has been designated to boost food safety and legislation has been implemented to provide tax credits to farmers supplying produce to community food programs (Tarasuk et al., 2014, p. 1410). Moreover, in 1999 the Federal Government launched the Food Security Bureau in

agriculture and Agri-Food Canada (Koc et al., 2008, p. 130). Unfortunately, as Koc et al. (2008) attest, this organization had no real authority or directive (Koc et al., 2008, p. 130). Besides the above initiatives, the Federal Government has not implemented policy or programs at the national level to address food insecurity.

Absent in the literature are solution-oriented studies proposing approaches to address food insecurity at the national level in Canada. Power, Little & Collins (2014) submit that in-kind policy and programs, like those in the United States (Supplemental Nutrition Assistance Program [SNAP]), might help reduce food insecurity (Power et al., 2014). However, Power et al. (2014) ultimately posit such programs are “paternalistic” and do not parallel with the tenets of Canadian social policy (Power et al., 2014, p. 184).

British Columbia’s Response to Food Insecurity

Like their federal counterparts, food insecurity has been a low priority for the B.C. provincial and municipal governments (Parfit, 2016). Although food insecurity rates have hovered around 12% over the past several years in B.C., a food security strategy was only recently developed (PHSA, 2016, p. 2). Now a key public health issue, food insecurity is gaining increasing attention from the Provincial Government (PHSA, 2016, p. 1) as demonstrated by the acceptance of food security into the Food Security Core Public Health Program and public health (Seed, Lang, Caraher & Ostry, 2014, p. 326).

Food security programs and initiatives were introduced into B.C. Government divisions in the mid-2000s and led by public health (Seed et al., 2014, p. 325; Seed, Lang & Caraher & Ostry, 2013, p. 457). The literature suggests that food insecurity framed as a health issue is the main driver of food security programs in B.C. (Seed et al., 2014; Seed et al., 2013). That is, as more research emerges linking food insecurity to negative health outcomes, its importance as a public health issue rises on the policy agenda. As the gap between food insecurity and health outcomes closes, the fiscal impact to government healthcare budgets is better understood by policymakers, making the problem more tangible. Indeed, health initiatives get noticed and receive money.

In B.C., the Ministry of Health (MoH) determines provincial food security policy and the Provincial Health Services Authority (PHSA) leads and facilitates the implementation of policy (B.C. Ministry of Health, 2014, p. ii). The PHSA and B.C. health authorities work together, and with regional and community partners, to implement food security programs at the regional and community level to reduce food insecurity. Moreover, the MoH’s (2014) B.C. Food Security Model Core Program, and its supporting B.C. Food Security Evidence Review (2013), sets the strategic direction for B.C.; decreasing food insecurity is the main goal of the Model Core Program (PROOF, 2016, p. 1). Essentially, the Model Core Program collectively joins the B.C. MoH, the PHSA, and the regional health authorities to address food security within each of their mandates (B.C. Ministry of Health, 2014, p. ii).

The B.C. MoH supports the Community Action Food Action Initiative (CFAI), (Ministry of Health, 2014, p. 8), the Provincial Officer's Annual Report on Food, the Farmers' Market Nutrition Coupon Program, and Food Skills for Families (Seed et al., 2014, p. 325). The CFAI, alongside the Model Core Program, and funded by the MoH, has been instrumental in advancing the need for permanent food security initiatives and resources in the health authorities (Seed et al., 2014, p. 326). The CFAI is a key component of the Model Core Program with respect to its execution and delivery and aims to increase community food knowledge and skills as well as awareness of food insecurity (Ministry of Health, 2008, p. 14).

Although the B.C. MoH and the PHSA are the main public institutions driving food security policy and action at the provincial level, several other ministries have been integral to the food insecurity conversation and solution. The Ministry of Education, Agriculture, Environment, Finance, Housing and Social Development and Innovation, Children and Family Development, and Transportation all have linkages to the food security conversation and agenda in B.C. (Ministry of Health, 2014, p. 9). Many of these ministries offer food security programs and are financially supported by B.C. public health (Seed et al., 2014, p. 459).

B.C. Government literature emphasizes the importance of partnering with the private and non-profit sectors to address food insecurity and focuses on building food knowledge and skills in communities. Rarely does the government literature highlight financial aid or social assistance to address food insecurity. The academic and grey literature elucidate that B.C.'s response to food insecurity has primarily been through the development and funding of community programs, a downstream approach. However, the PHSA has explored social and economic policy as a tool to reduce food insecurity in B.C. Acknowledging food insecurity cannot be solely addressed as a purely poverty problem, a key 2007 PHSA policy paper explores the impacts of increases to social assistance rates, the minimum wage, and child benefits on food insecurity in B.C. (PHSA, 2007, p. 62-67). Demonstrating the relationship between affordability of food and low-income levels, this study suggests alleviating poverty via social assistance may have a positive impact on food insecurity in B.C. (PHSA, 2007). Indeed, welfare rates increased in B.C. from 2005 to 2007 and Li et al. (2016) found that this increase had a positive impact on food insecurity levels in the short-term for some B.C. residents (Li et al., 2016, p. 154).

Collins et al. (2014) argue that since the mid-1990s, provincial governments have been reducing social assistance and benefits and simultaneously “downloading responsibilities for social programs to the municipal level” (Collins et al., 2014, p. 139). This “downloading” of social assistance responsibility from the provincial to municipal government has created the need for food banks, non-profits, and other private organizations to address food insecurity as municipal resources fail to adequately address food insecurity. Organizations, like the CGC and CFSC must pick up the slack and address food insecurity in their communities. In the same vein, Tarasuk, Dachner, and Loopstra (2014) argue that these community programs are likely enabling the continued cancellation of social supports and programs (Tarasuk et al., 2014, p. 1406). Regional and local governments have adopted several different strategies to tackle the food insecurity problem in B.C. These strategies include the development of food policy coalitions, policy

guidelines for healthy food, food source mapping, mechanisms to support farmers' markets, transportation mapping and policy, community food assessments, and increasing access to food by collaborating with food producers and suppliers (Ministry of Health, 2013, p. iv). These community level programs and services also include food banks, soup kitchens, nutritional support programs, food gleaning programs, and school meal programs (Ministry of Health, 2013, p. v).

Regulatory pluralism is proposed in the literature as a framework to improve working relations amongst the private, public, and non-profit sector, as well as food supply chain stakeholders, with the goal ending food insecurity (Koc et al., 2008, Seed et al., 2013; Seed et al., 2014). Indeed, in the MoH's (2013) "Evidence Review: Food Security" the importance of working across ministries, sectors, and with community partners to address food insecurity is suggested (Ministry of Health, 2013, p. 19). There is some evidence in the literature that regulatory pluralism is already at work. Because food policy councils bring together local businesses, governments, grocers, producers, and other community stakeholders to address food insecurity, Seed et al. (2014) postulate that food policy councils are a sign of regulatory pluralism emerging as a solution in B.C. (Seed et al., 2014, p. 328).

3.4 Community-Based Responses and Models to Food Insecurity

At the community level, Collins et al. argue that food insecurity can be addressed through three program models: the charitable model; the household improvements and supports model; and the community food systems model (2014, p. 139). The first two approaches target food insecurity at the individual and household levels, while the third is addressing food insecurity from a community perspective. The charitable model focuses on poverty reduction and food-distribution initiatives, such as food banks. The household improvements and supports model emphasizes household knowledge, skill development and empowerment regarding food and food production (Collins et al., 2014, p. 139). Finally, the community food systems model is regional approach to food insecurity that aims to maximize a community's self-reliance and ability to produce food (Collins et al., 2014, p. 139).

The CGC and CFSC offer programs and activities that address the goals of the three models identified by Collins et al. The CGC's Cowichan Food Charter is an example of a community food systems program (Cowichan Green Community, 2009, The Cowichan Food Charter). By providing low-income families and seniors with coupons to spend at local farm markets (Cowichan Green Community, 2014, Farmers' Market Nutrition Coupon Program), the Farmer's Market Nutrition Coupon Program is a charitable model approach. Finally, the CFSC served as project steering committee to the Preserving Our Wisdom project, a knowledge transfer project from community elders to families and youth about food preparation and preservation techniques. The project emphasized skills development and thus embodied the household improvements and supports model (Cowichan Green Community, 2016). Each model to addressing food insecurity is examined in more detail in the following sections.

Charitable Model: Food Distribution and Poverty-Reduction

Collins et al. define the charitable model as encompassing both food distribution and poverty reduction initiatives (2014, p. 139), and as per this definition, this model addresses the access dimension of food security. The charitable model arose in the 1980s and 1990s, when food scarcity in Western nations became recognized as a concern at the same time as government social assistance programs for the poor and unemployed were being rolled back (Tarasuk & Eakin, 2003, p. 1505). Community-based charitable food assistance programs, composed primarily of food banks, filled the vacuum left by social assistance programs and became a major response to food scarcity.

Food banks collect and re-distribute donated foods to those “in need,” typically on an ad hoc, voluntary basis (Tarasuk, Dachner & Loopstra, 2014, p. 1405). The success of food banks is debated in the literature: some researchers highlight the importance of immediately assisting individuals who are suffering from hunger (Roncarolo, Bisset, & Potvin, 2016, p. 3), while others view food banks as “an indicator of the state’s failure to implement and support social policies that are meant to ensure a minimum standard of living” (McIntyre, Tougas, Rondeau & Mah 2015, p. 845). However, most researchers agree that food banks were always meant as temporary relief operations (Tarasuk & Eakin, 2003, p. 1506), and should not act as a long-term response to food security (Roncarolo et al., 2016, p. 12).

Collins et al.’s inclusion of “poverty reduction” as part of the charitable model seems misaligned considering that this model arose as provincial and national poverty-reduction initiatives were rolled back. Indeed, the charitable model might not need to exist on such a large scale if poverty reduction was supported by a national or provincial strategy. While organizations such as the CFSC or CGC can participate in poverty reduction initiatives such as the Farmer’s Market Nutrition Coupon Program (Cowichan Green Community, 2014, Farmers’ Market Nutrition Coupon Program), non-profit organizations and municipal governments do not have the ability to access the policy levers necessary to increase income security, or to implement large-scale, long-term poverty reduction initiatives (Collins et al., 2014, p. 139).

Household Improvements and Supports Model

The household improvements and supports model focuses on the availability (supply) of food at the localized level, and the utilization of food by individuals and households. It aims to address food insecurity by emphasizing household knowledge, skill development and empowerment regarding food and food production (Collins et al., 2014, p. 139). Examples of projects categorized under this model include good food boxes, community gardens, or cooking and budgeting workshops. Such programs are widely promoted in Canada by public health organizations, community health centers, and other organizations such as Dietitians of Canada (Loopstra & Tarasuk, 2013, p. 55) and as a result they are commonly offered by charitable organizations. The CGC offers a number of them, including Kinsmen Park Community Gardens, their Community Urban Food Forest, and the Incubator Seed Farm.

Despite the wide availability of household improvements and supports model programs across Canada, research has found that families who are food insecure exhibit very low participation rates in community food programs including community gardens, community kitchen, or good food box programs, due to either lack of program accessibility or perception that the program is not the right fit for them (Loopstra & Tarasuk, 2013, p. 57; Kortright & Wakefield, 2010, p. 51). Evidence shows that most home gardeners do not typically grow food out of financial necessity (Kortright & Wakefield, 2010, p. 50) and that individuals who are food insecure are less likely to engage in gardening. Indeed, only 29.4% of adults in food-insecure households reported using a home or community garden for food, compared with 43.5% of those in food-secure households” (Huisken, Orr & Tarasuk, 2016, p. e530).

Stemming from such evidence, the literature does not align in its impact assessment of these types of programs. Some pieces of literature find that these programs do little to address household food insecurity due to their inaccessibility for the most vulnerable (Loopstra & Tarasuk, 2013). On the other hand, some researchers argue that it has significant positive impacts on community food security (Young, Karpyn, Uy, Wich & Glyn 2011; Slater, 2007) by providing individuals and households the means to produce high quality produce (Kortright & Wakefield, 2010, p. 40), and in so doing, improving Canadians’ meal preparation practices and addressing a number of national health concerns (Huisken et al., 2016, p. e531). The dissonance in the assessment of these programs reflects the dissonance between household food insecurity and community food security. In effect, programs categorized by this model are assessed differently according to a researcher's’ frame of reference and goals.

Regardless of these programs’ impact assessment, many researchers consider it important not to demonize the organizations who deliver charitable or household improvements and supports model programs (Wakefield, Fleming, Klassen, & Skinner 2013, p. 444). While this holds true, it is critical to consider ways in which these programs can be designed to meet the needs of food insecure households, while still positively impacting community food security (Loopstra & Tarasuk, 2013). For example, community food gardens can be incompatible with busy schedules (Loopstra & Tarasuk, 2013, p. 57-58), so it is important to consider ways in which produce harvested in community gardens can be distributed to individuals and households in need, without requiring gardening participation.

Community Food Systems Model

The community food systems model is a regional/municipal approach to food insecurity that aims for “a sustainable food system that maximizes community self-reliance and social justice” (Collins et al., 2014, p. 139). This model can be understood as an approach to achieving community food security, and many programs delivered under Collins et al.’s umbrella of household improvements and supports model also contribute to the success of this model by blurring the line between household and community-level impacts. By focusing on food systems, this model seeks to address all three dimensions of food security: availability, access, and utilization.

The community food systems model is driven largely by partnerships between municipal governments, food activists and local service providers, and is manifested primarily in the form of food charters and food policy councils (Collins et al., 2014, p. 139). By way of these partnerships and the development of local strategies and advocacy, Collins et al. consider that this model is the best suited to catalyze and inspire food security action at higher levels of government (2014, p. 139). Indeed, partnerships between a diverse range of organizations, even if they carry different orientations towards social change, can lead to meaningful collaboration and coalition building (Wakefield et al., 2013, p. 445).

While advocates of this model consider that it addresses systemic food system concerns in a holistic way and improves the community, critics consider that it takes the focus away from the root cause of hunger: the structural causes of poverty (Wakefield et al., 2013, p. 431; Tarasuk, 2001, p. 490). In addition, Collins et al. identify a knowledge gap, at the time of publication, regarding community food system model program assessments (2014, p. 139). Indeed, they find that a critical evaluation of these programs (such as food charters) has yet to be undertaken, and therefore that we have little understanding of their effects on food insecurity in Canada (Collins et al., 2014, p. 139). The lack of critical evaluation of community food system programs, persists at the time of this literature review. Indeed, most literature that evaluates food security programs is focused largely on single initiatives that are more aligned with the household improvements and supports model (Kortright & Wakefield, 2011; Huisken et al., 2016; Loopstra & Tarasuk, 2013). A search on the Uvic Summons Database with the terms “food charters” or “community food security assessment” leads to no meaningful results, other than the Collins et al. piece calling for more research.

Beyond the model’s advocated solution to food insecurity, it introduces a new food security consideration that is not identified in traditional food security definitions or household food insecurity definitions: the relationship between food security and sustainability. While not addressed in the FAO’s official food security definitions, it is commonly referred to in community food security definitions. For instance, the CGC’s use the term in their definition of food security: “all members of our community have access to enough nutritious, safe, ecologically sustainable, and culturally appropriate food at all times” (Cowichan Green Community, 2010, p. 5), as well as the Dietitians of Canada: community food security (CFS) exists “when all community residents obtain a safe, personally acceptable, nutritious diet through a sustainable food system that maximizes healthy choices, community self-reliance, and equal access for everyone” (Slater, 2007, p. 1).

Sustainability, which introduces a time dimension to the notion of development (Berry, Dernini, Burlingame, Meybeck & Conforti, 2015, p. 2294), appears in certain, arguably specialized, pieces of literature as a key consideration for food security policy and programming. Sustainability can be used to “represent and monitor the capacity to ensure, for the long-term, all of the dimensions of food security” (Berry et al., 2015, p. 2296). Within a sustainability frame of reference, assessing the availability of food relies on an assessment of the sustainability of

agriculture and food production (MacRae, 1999); access to food relies on the sustainability of the economy; and finally, utilization relies on the sustainability of diets (Berry et al., 2015, p. 2296). Two key assumptions inform sustainability advocacy: First, that sustainable diets, sustainable food consumption, and sustainable food production will, in the long term, result in “conservation of biodiversity, reduced climate change and other environmental impacts, improved economic and social benefits, and improved health and nutrition” (Berry et al., 2015, p. 2300); Second, that behaving unsustainably in any of those dimensions will exacerbate food insecurity for future generations, as unsustainable food practices contribute to global climate change, which in turn continues to shock agricultural production worldwide, and corrode global and national socioeconomic stability (Berry et al., 2015, p. 2300; Essex, 2010, p. 3356).

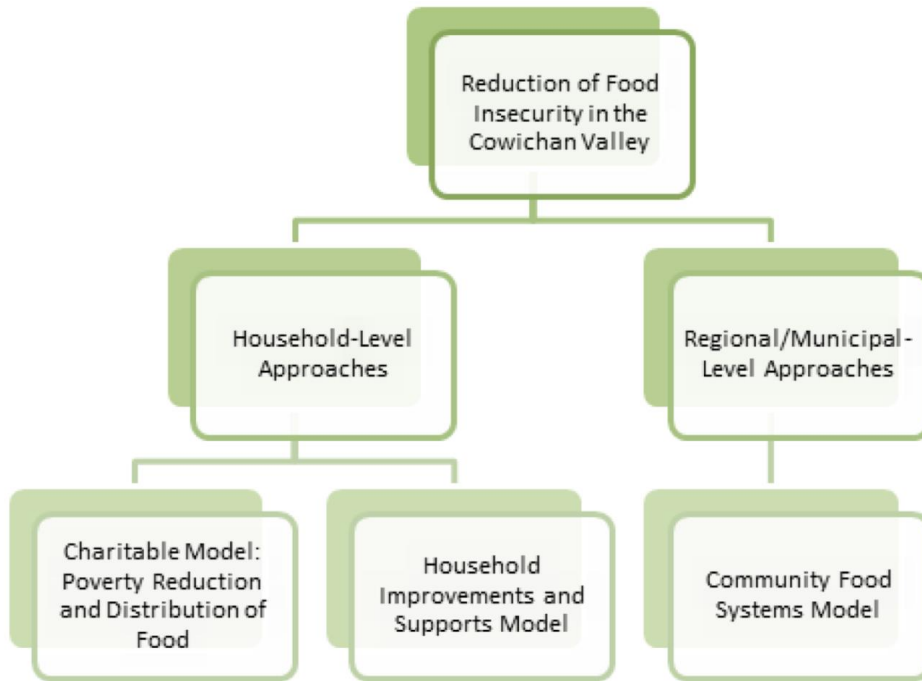
3.5 Summary

The literature review explored key concepts, themes, and theories in the food insecurity literature. Section one focused on defining food insecurity which brought to light the multi-layered nature of food insecurity. The complex, multidimensional nature of food insecurity poses challenges for solution development as the causes of food insecurity are diverse and interwoven. The second section focused on reviewing and analyzing the key principles of food insecurity. For example, its origins, measurement, predictors, and expressions; moreover, the Federal and Provincial Government response to food insecurity was assessed. The literature suggested that the institutionalization of food banks was a major contributing factor to the lack of an upstream, systemic solution to reduce food insecurity in Canada and B.C. Lastly, the third section of the literature review critically evaluated leading community-based approaches to reducing food insecurity. Ultimately, a combination of upstream policy and downstream community approaches are needed to tackle this multifaceted social issue.

4.0 CONCEPTUAL FRAMEWORK

The conceptual framework (below) guiding this project was derived from the literature review on food insecurity in Canada. It distinguishes the types of initiatives available to food security organizations and serves as an organizational tool to decipher an organization’s desired scope of activity. Note that this framework focuses on programming implementable at the community organization level rather than by government.

Figure 3. Research Conceptual Framework



Source: Collins, Power, & Little, 2014

The framework supposes that to reduce food insecurity, two approaches are available to community organizations: household-level approaches and regional or municipal-level approaches. Household-level approaches addressing food insecurity include charitable approaches (poverty reduction or food distribution initiatives) and household improvements and supports initiatives. In a regional or municipal approach to tackling food insecurity, community organizations focus their resources on initiatives that aim to alter their community food systems. If used to examine a community organization’s programs, this model can serve to identify potential gaps in program delivery.

5.0 FINDINGS: SITUATION ANALYSIS

5.1 Overview

The situation analysis compiles primary and secondary data to determine the CFSC's current program offerings, organizational strengths, weaknesses, and gaps in context of the food insecurity problem in the CVRD. It identifies current CFSC organizational challenges and opportunities for organizational growth; additionally, it informs the CFSC's food security programs and initiatives development. Lastly, it identifies food resources available in the CVRD and external interventions and programs currently being implemented, and recommends solutions.

The situation analysis is organized into six sections. First, a socioeconomic profile of the CVRD is presented and discussed to provide context about CVRD population. Second, CVRD community food assets are mapped and analyzed to determine how well the CVRD community is poised to manage and address food insecurity. Third, current CFSC programs are identified, described, and analyzed in conjunction with the internal expert interviews. Fourth, a review of leading organizations with similar objectives of the CFSC (external to the CVRD) identifies and describes innovative programs that could be successfully delivered in the region. Fifth, private and public funding opportunities are identified and best options are recommended based on their alignment with CFSC programs and priorities and community need. Lastly, gaps and opportunities are paired with the most economical and efficient options the CFSC could pursue to reduce food insecurity in the CVRD. Key insights from each section of the situation analysis are highlighted and presented in a condensed summary format at the end of the section.

5.2 Cowichan Valley Regional District Socioeconomic Profile

The goal of the socioeconomic profile is to provide contextual background information related to food insecurity in the CVRD to improve the CFSC's understanding of the socioeconomic landscape the food insecurity problem is intertwined with. Through an improved understanding of the socioeconomic landscape, food insecurity solutions are better informed and customized to the needs of population. More generally, the socioeconomic profile provides the CFSC with an enhanced understanding of their community.

The socioeconomic profile of the CVRD was developed by analyzing primary social and economic data obtained from Statistics Canada's 2011 National Household Survey (NHS). Secondary sources, such as socioeconomic and health reports developed by Statistics B.C. and Island Health, were consulted to further inform the socioeconomic profile. Additional government grey literature was used, sparingly, to inform the work in this section. Where applicable, CVRD NHS data was compared with British Columbia NHS data to bring to light any significant socioeconomic divergences from provincial statistics.

Population, Education, Diversity, and Household Characteristics

Population

The populations of the towns, cities, reserves, and municipalities that make up the CVRD are highlighted below in Table 1.

Table 1. 2011 and 2016 CVRD Population Counts and Comparison

Geographic Area	2011	2016	2011-2016 % Change
CVRD (Total)	80,332	83,739	4.06%
Duncan	4,932	4,944	0.24%
North Cowichan	28,807	29,676	2.9%
Ladysmith	7,921	8,537	7.2%
Lake Cowichan	2,974	3,226	7.8%
Area A - Mill Bay/Malahat	4,393	4,733	7.1%
Area B - Shawnigan Lake	8,127	8,558	5.0%
Area C - Cobble Hill	4,796	5,019	4.4%
Area D - Cowichan Bay	2,971	3,243	8.4%
Area E - Cowichan Koksilah	3,854	4,121	6.5%
Area F -Cowichan Lake South/Skutz Falls	1,649	1,629	-1.2%
Area G - Saltair/Gulf Islands	2,221	2,325	4.5%
Area H - North Oyster/Diamond	2,332	2,446	4.7%
Area I - Youbou/Meade Creek	1,111	1,206	7.9%
Cowichan I	2,337	2,086	-12.0%
Chemainus 13	683	735	7.1%

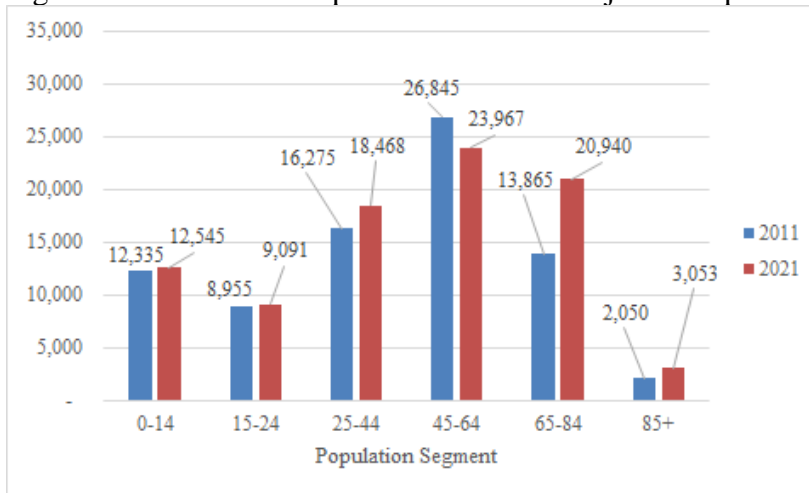
Malahat 11	102	143	28.7%
Halalt 2	160	168	4.8%
Kuper Island 7 (Penelakut)	446	452	1.3%
Theik 2	31	36	13.9%
Oyster Bay 12	89	77	-15.6%
Malachan 11	162	158	-2.5%
Tsussie 6	88	103	14.6%
Squaw-hay-one 11	40	35	-14.3%
Cowichan Lake 1	33	21	-57.1%
Kil-Pah-Las 3	0	0	0%
Est-Patrolas 4	41	23	-78.2%
Tzart-Lam 5	32	39	17.9%

Source: CVRD, Reports & Statistics, n.d.

In 2016, including Indigenous reserves, the CVRD had a total population of 83,739; the 2016 census data reveals that the CVRD population increased by 3,407 individuals from 2011 (Statistics Canada, 2016a). The national population growth was 5.0% from 2011 to 2016 (Statistics Canada, 2017), with Alberta and Nunavut's growth dominating, and higher than the CVRD population growth rate (Statistics Canada, 2017). By 2021, B.C. Statistics estimates the CVRD population will reach 88,064 (B.C. Statistics, 2017).¹ In Figure 4, 2011 CVRD population statistics are compared with projected 2021 statistics.

¹ B.C. Statistics' population projection tool was used to forecast all population projections in this section.

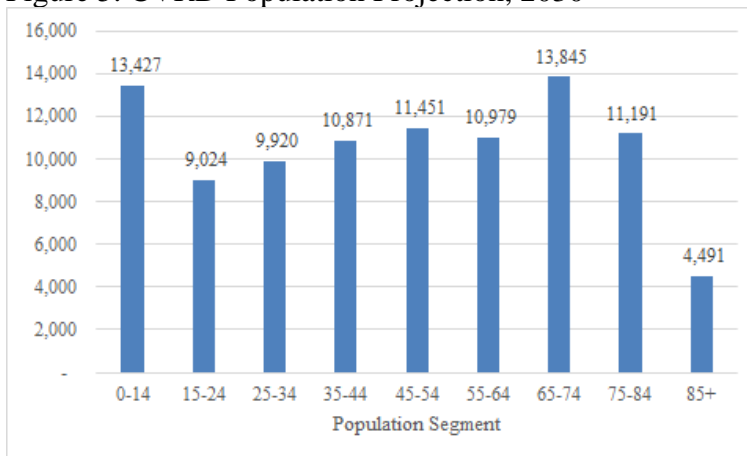
Figure 4. CVRD 2011 Population vs. 2021 Projected Population



Source: B.C. Statistics, 2017.

The most notable change is that the non-working 65-84 population segment is expected to increase by approximately 40.6% by 2021. Moreover, the 85+ population segment is expected to increase by 39.3%. Additionally, there is an 11.3% expected decline in the 45-64 population segment. These projections suggest the CVRD population is aging faster than it is growing, which is also occurring in major parts of the world (United Nations, 2015). Looking forward, B.C. Statistics estimates the CVRD population will reach 91,368 by 2025, a 12.8% increase over the 2011 population (B.C. Statistics, 2017). CVRD population projections for 2030 are depicted below in Figure 5.

Figure 5. CVRD Population Projection, 2030



Source: B.C. Statistics, 2017.

The graph reveals an aging population; similar to B.C. Statistics, the Vancouver Island Health Authority expects the Cowichan local health area population, which includes Duncan and North

Cowichan, to grow by 23% over the next 20 years (VIHA, 2013, p. 1). The population segment aged 75 and over in the Cowichan area is forecasted to double by 2033 (VIHA, 2013, p. 1). Given that approximately 13% of British Columbians experience some type of food insecurity, understanding the forecasted population growth by population segment, enables the CFSC to grasp the number of CVRD citizens that may experience food insecurity in the future (PROOF, 2012, p. 2). Furthermore, seniors may be a vulnerable population with respect to food insecurity and this population segment is growing; in 2010, 10% (1,540 individuals) of CVRD seniors (those over 65) were classified as low income (Statistics Canada, 2013b).

Highest Level of Education

The majority of the 2011 CVRD population (60%) aged 25 to 64 had some type of postsecondary qualification, be it a certificate, diploma, or degree (Statistics Canada, 2013b). Moreover, 27.5% of the population's highest level of education was a high school degree, and 12.5% had no certificate, diploma, or degree (Statistics Canada, 2013b). In 2011/2012, B.C. households where no individual had completed high school had the highest level of food insecurity (24.9%); however, households where at least one person had a bachelor's degree, or higher level of education, had the lowest rate of food insecurity (5.3%) (PHSA, 2016, p. 18).

Diversity and Household Characteristics

According to the 2011 Census (Statistics Canada, 2013b), the CVRD population (78,670 in private households, NHS; 80,332 total Census population)² had the following characteristics:

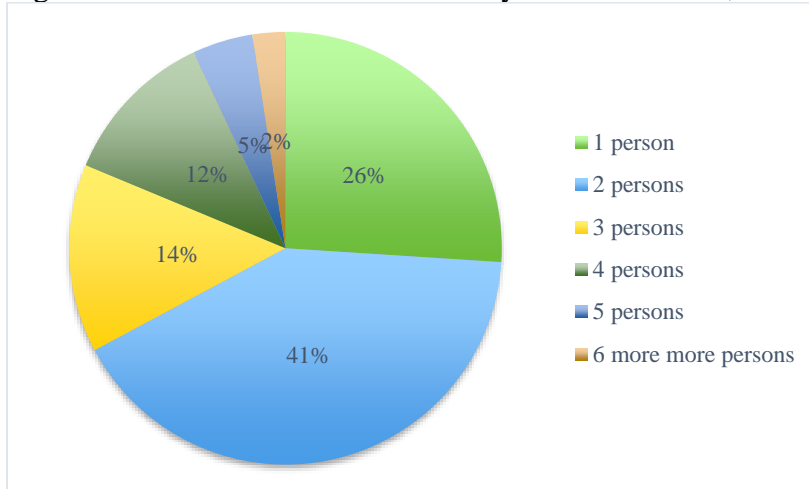
- a visible minority population of 3,175 individuals, with South Asian and Chinese individuals accounting for 52% of the total (NHS);
- an immigrant population of 9,465 individuals (NHS);
- an Aboriginal identity population of 8,525 individuals (NHS); 4,289 of these individuals lived on-reserve and 4,236 lived off-reserve (Cowichan Social Planning, 2011, p. 11);
- 33,165 private households, with 6,295 (19%) rental households (NHS);
- 2,760 lone-parent-family households; 57% of these households had only one child, 31% of these households had two children, and 12% had three or more children;
- an average number of persons in the CVRD in 2011 of 2.4 people in private households and 2.7 in census families³.

Given that food insecurity impacts Indigenous populations more acutely than the rest of the population (PROOF, n.d., para. 9), it is important to consider that 11% of the 2011 CVRD population was Aboriginal. Similarly, according to the PHSA, in 2011-2012, 34% of B.C. households headed by single mothers (and children less than 18 years of age) were food insecure (PHSA, 2016, p. 3). Figure 6 reveals the distribution of CVRD households by household size.

² The CVRD profile information is based on both the NHS data and the Census data.

³ Private households include non-family households and census families.

Figure 6. CVRD Private Households by Household Size, 2011

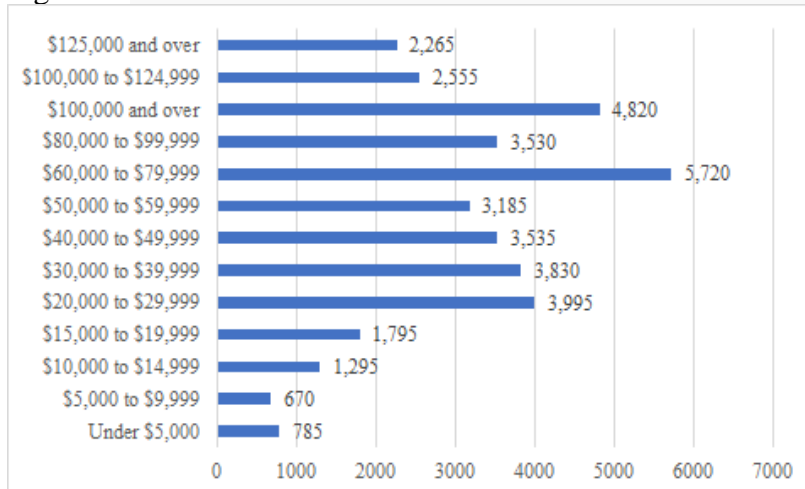


Source: Statistics Canada, 2013b.

Household Income, Housing, and Poverty

In 2010, the median household income in the CVRD was \$56,471 and the average household income was \$69,013 (Statistics Canada, 2013b). The CVRD median income is \$3,862 (6.6%) lower than the B.C. median household income and the average household income is \$8,365 (11.4%) lower than the B.C. average household income (Statistics Canada, 2013b). The distribution of CVRD 2010 after-tax income of private households is depicted in Figure 7.

Figure 7. After-tax Income of CVRD Private Households in 2010

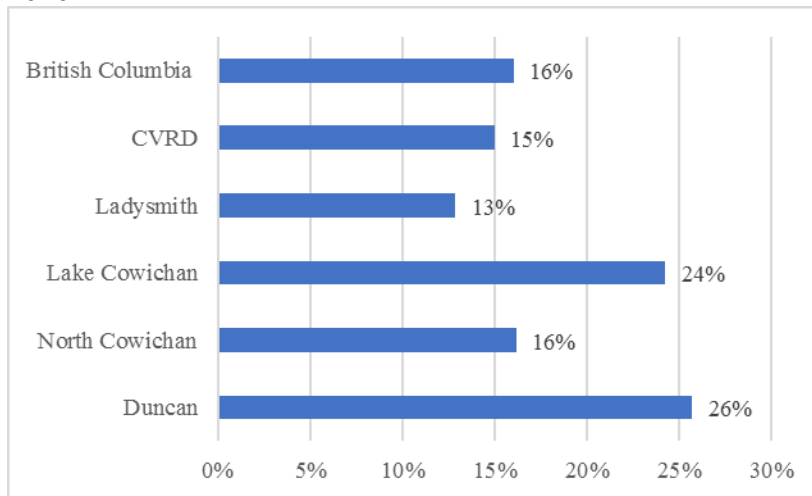


Source: Statistics Canada, 2013b.

Based on the data above, 47% of households in the CVRD made less than \$50,000 annually (Statistics Canada, 2013b). According to Statistics Canada's low-income measure, in 2010,

15.1% of the CVRD population was considered low income, 1% lower than British Columbia’s 2010 low-income statistic (Statistics Canada, 2013b). The after-tax low-income measure in 2010 was \$19,460 for a household with only one individual (Statistics Canada, 2016). The CVRD low-income incidence for each of the four CVRD municipalities under analysis is highlighted below in Figure 8.

Figure 8. Percentage of Low Income Individuals Based on After-Tax Low-Income Measure, 2010⁴



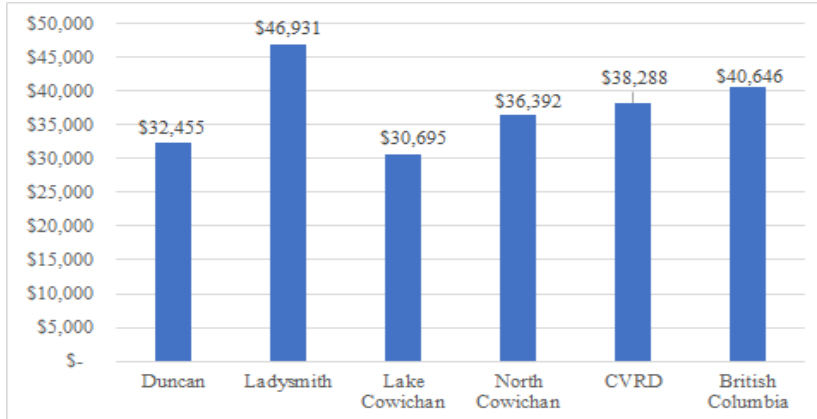
Source: Statistics Canada, 2013b; Statistics Canada, 2013c; Statistics Canada, 2013d; Statistics Canada, 2013e; Statistics Canada, 2013f; Statistics Canada, 2013g).

Based on this measure, a quarter of Duncan’s population lives in low-income households. Lake Cowichan’s low-income incidence is also relatively high - nearly a quarter of the population is classified as low income. North Cowichan’s low-income incidence is close to the 2010 B.C. provincial average and Ladysmith is the only community whose low-income incidence falls below the B.C. provincial average.

As mentioned in the previous section, lone parent economic families are a vulnerable population with respect to food insecurity. Below, Figure 9 compares the 2010 after-tax median income of lone parent economic families in the four communities under analysis; CVRD and B.C. after-tax median incomes (2010) have been included for comparison.

⁴ Classification of low income is conducted for most of the population living in private households and is based on the income of the household that person lives in.

Figure 9. Lone Parent Economic Families Median After-tax Household Income Comparison, 2010



Source: Statistics Canada, 2013b; Statistics Canada, 2013c; Statistics Canada, 2013d; Statistics Canada, 2013e; Statistics Canada, 2013f; Statistics Canada, 2013g).

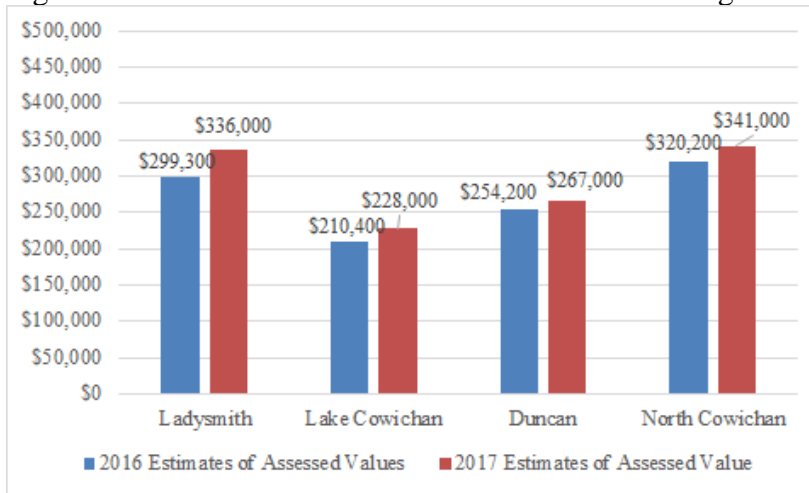
Duncan and Lake Cowichan have the lowest after-tax median household income amongst the four jurisdictions.

Housing

In 2011, the average value of a non-farm, non-reserve private dwelling in the CVRD was \$427,489 and the median value was \$379,615 (Statistics Canada, 2013b). The average value of a household dwelling in B.C. was 27% higher at \$543,635 and the median value of a B.C. dwelling was 18% higher or \$448,835 (Statistics Canada, 2013g).⁵ In Figure 10, 2016 and 2017 B.C. Assessment prices for single family residential homes in the four jurisdictions under analysis are compared.

⁵ The CVRD to B.C. differences in housing prices was calculated using excel; for example, $\$543,635 / \$427,489 - 1 = 27\%$.

Figure 10. CVRD 2016 v. 2017 Assessed Prices for Single Family Residential Homes

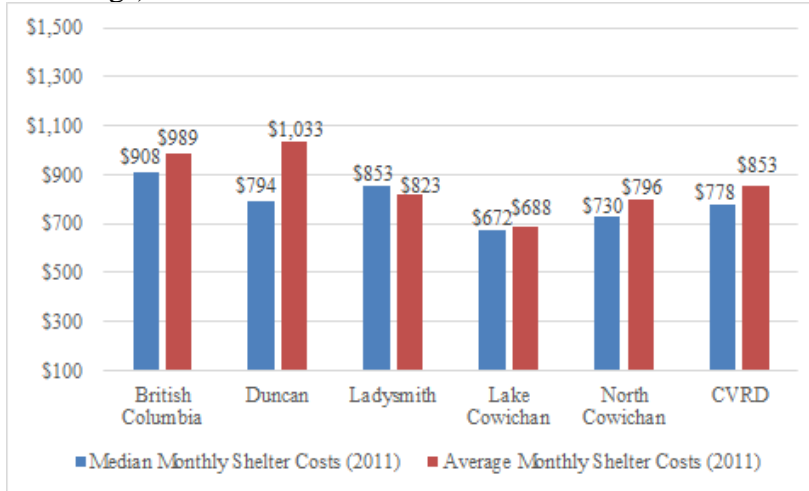


Source: B.C. Assessment, 2017.

CVRD 2017 housing prices increased over 2016 prices by 12.2% in Ladysmith, 8.3% in Lake Cowichan, 5% in Duncan, and 6.5% in North Cowichan (B.C. Assessment, 2017, p. 2). In Canada, the long run rate of return for all homes types in Canada is around 3.5% annually (TD Economics, 2013, p. 1).

Housing affordability can be measured by how much of a household’s income is spent on shelter. The 2011 median and average monthly shelter costs for rented dwellings for each CVRD jurisdictions under analysis are outlined below in Figure 11. Rented dwelling statistics were chosen as the literature indicates that households that rent are more likely to be food insecure (PHSA, 2016, p. 23).

Figure 11. 2011 CVRD Median and Average Monthly Shelter Costs Comparison (Rented Dwellings)



Source: Statistics Canada, 2013b; Statistics Canada, 2013c; Statistics Canada, 2013d; Statistics Canada, 2013e; Statistics Canada, 2013f; Statistics Canada, 2013g).

According to the 2011 Census, approximately 60% of tenant households in Duncan spent more than 30% of household income on rent; this is 17% higher in comparison to B.C. households during the same time period (Statistics Canada, 2013b; Statistics Canada, 2013g). Furthermore, nearly 58% of tenant households in Lake Cowichan and North Cowichan spent more than 30% of household income on rent in 2011 (Statistics Canada, 2013e; Statistics Canada, 2013f). Overall, 52.3% of CVRD tenant households spent more than 30% of household income on housing (Statistics Canada, 2013b) and 24% spent more than 50% of household income on housing in 2011 (Canadian Rental Housing Index, 2017). For comparison, roughly 45% of B.C. tenant households spent more than 30% of household income on rent in 2011 (Statistics Canada, 2013g).

Along with rising real estate prices, the vacancy rate is also declining in the CVRD (Cowichan Housing Association, 2017, p. 3). From 2013 to 2016, the vacancy rate has declined by 6.5% to 3% (Cowichan Housing Association, 2017, p. 3). Furthermore, demand for rental housing is expected to increase by 30-34% over the next 25 years (Canadian Rental Housing Index, 2017).

Rising rents reduce household cash flow; as more income is allocated to rent or mortgage payments, less is allocated to food. Ultimately, rising real estate and rental costs in the CVRD, paired with the high percentage of low-income individuals, suggests increased pressure on household finances.

Homelessness

The homeless population in the CVRD is small and consists of a total of 134 individuals; according to Canadian Rental Housing Index, this number is likely an undercount (Canadian

Rental Housing Index, 2017). The homeless population in the CVRD is increasing; in 2014, the “established absolute” number of homeless people in the CVRD was 58 (Cowichan Green Community, 2015, p. 1).

Unemployment, Social Assistance Rates, Food Security, and Health

Unemployment

Like B.C., the 2011 Statistics Canada NHS reports an unemployment rate of 7.8% in the CVRD for a total of 3,060 individuals unemployed (Statistics Canada, 2013b). The labour force participation rate is 58.7% which identifies those who are employed and those who are actively looking for work. Statistics Canada data indicates that 1.5% of the CVRD is on Employment Insurance (Statistics Canada, 2013b). Recent research by PROOF and the PHSA (2016) reports that food insecurity impacts approximately 33% of Canadian individuals reliant on Employment Insurance or Workers’ Compensation (PHSA, 2016, p. 2).

Social Assistance

Statistics Canada indicates that 2.1% of the CVRD is on income assistance, 0.4% higher in comparison to B.C. (VIHA, 2015, p. 5). On average, Island Health posits that 82% of households on social assistance experience some type of food insecurity, whether mild, moderate, or severe (Island Health, 2011, p. 2). Similarly, research by PROOF (2016) reports that food insecurity impacted 76% of B.C. households reliant on social assistance as their main source of income (PHSA, 2016, p. 2).

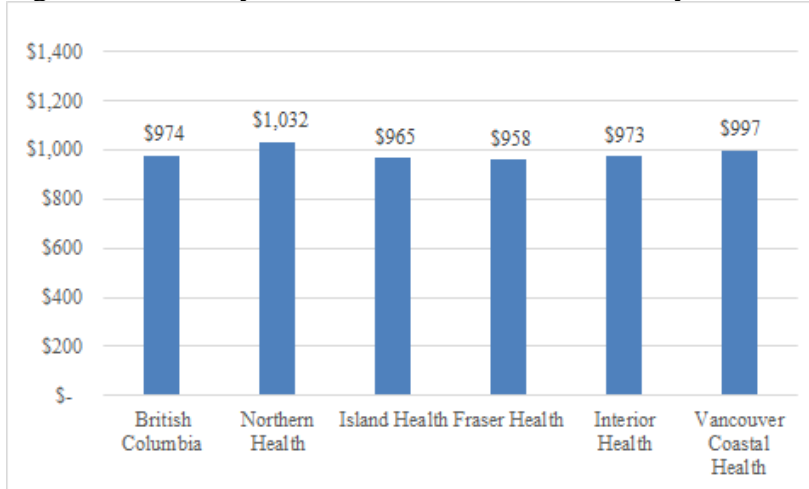
Food Security

The central Vancouver Island service delivery area, as defined by Statistics Canada, contains the CVRD (Statistics Canada, 2016). However, it is important to note this service delivery area also contains many other towns and cities. In 2011/2012, in the age group “Total, 12 years and over” there were 11,571 individuals in the central Vancouver Island service delivery area experiencing moderate food insecurity (Statistics Canada, 2013). In this same age group and region, 7,399 individuals were experiencing severe food insecurity (Statistics Canada, 2013). In the age group 20-34 years, 4,658 individuals in households were experiencing both moderate and severe food insecurity (Statistics Canada, 2013). In the 65 years and older age group, 1,426 individuals were experiencing both moderate and severe food insecurity (Statistics Canada, 2013).

The PHSA routinely calculates the cost of a nutritional food basket for a family of four to assess rising food costs in B.C. In 2011, the cost of a nutritious food basket for a family of four in B.C. was \$868 (PHSA, 2015, p. 12). The 2011 average cost of a nutritious food basket on central Vancouver Island for a family of four, was \$983.00 (PHSA, 2015, p. 8). Food costs are increasing rapidly; recent research by Vancity Credit Union posits that the cost of fresh vegetables has increased in B.C. by 26% from January 2015 to January 2016 (Vancity Credit

Union, 2017, p. 1). The same report states that the price of fresh fruit in B.C. has increased by 9% during the same time period (Vancity Credit Union, 2017, p. 2). In Figure 12, the average monthly cost for nutritional food baskets for a B.C. family of four based on health authority service delivery area is presented.

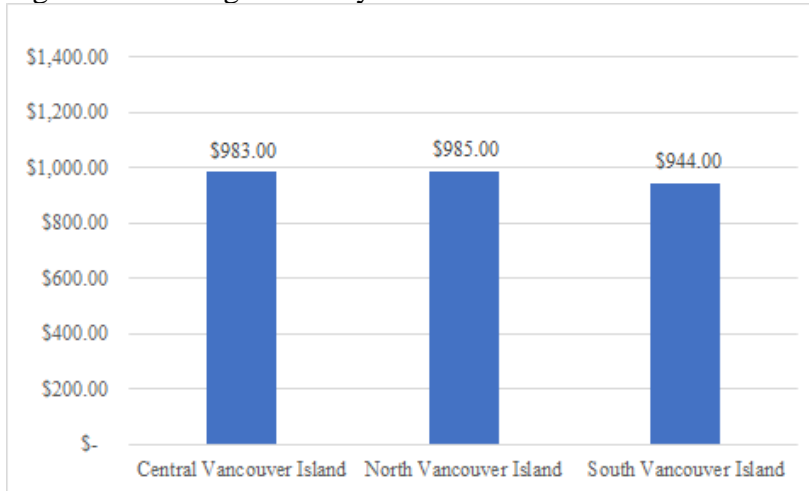
Figure 12. Monthly Food Costs for Reference Family of Four in B.C., 2015



Source: PHSA, 2015, p. 8.

In Figure 13, the 2015 Vancouver Island average monthly costs for a nutritional food basket are depicted for a family of four:

Figure 13. Average Monthly Costs for a Nutritional Food Basket on Vancouver Island, 2015



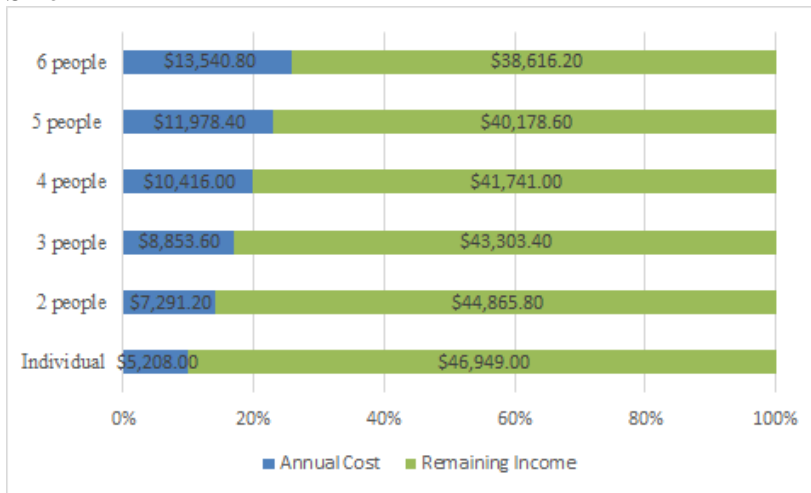
Source: PHSA, 2015, p.15.

The PHSA provides simple guidelines for calculating the average monthly cost of a nutritional food basket in B.C.; however, they do not provide specific food cost/values for each region. The

PHSA provides data about how much food costs by age group and gender and one can construct sample families to determine how much a nutritional food basket costs a specific type of family. For example, a single B.C. male aged 19-30 will spend \$302 dollars per month to acquire a nutritional food basket whereas a single B.C. female aged 19-30 will spend \$232 dollars to acquire a nutritional food basket (PHSA, 2015, p. 11). Moreover, a single mother and her son in B.C. will spend approximately \$493 per month acquiring a healthy basket of foods (PHSA, 2015, p. 10).

While these numbers are interesting and bring attention to the high cost of food in B.C., the cost of a nutritional basket of food must be assessed as a proportion of family after-tax income to determine the true impact of food prices. The PHSA recommends analyzing the annual cost of a nutritious food basket in B.C. as a proportion of a household’s income to determine the impact of food costs on the household budget (PHSA, 2010, p. 17). Below, in Figure 14, 2011 annual nutritional food basket costs (for British Columbia) for various household sizes are compared with the 2010 CVRD median after-tax household income (\$52,157) (Statistics Canada, 2013b).⁶

Figure 14. Proportion of CVRD Household Income Allocated to Food Expenditure by Family Size



Source: Statistics Canada, 2013b; PHSA, 2016, p. 12; Statistics Canada, 2015, para. 3.

⁶ The average monthly cost of a nutritious food basket for a B.C. family of four was \$868. Using low income household equivalence scales, the cost of a nutritional food basket was identified for different family sizes.

Table 2. Comparison of CVRD Annual Household Food Costs Based on Household Size, 2010 (Including Proportion of Income Expended)

Household Type	2011 Annual Cost of Nutritional Food Basket (Adjusted)	Proportion of Income	Income left after food costs
Individual	\$5,208.00	10%	\$46,949.00
2 people	\$7,291.20	14%	\$44,865.80
3 people	\$8,853.60	17%	\$43,303.40
4 people	\$10,416.00	20%	\$41,741.00
5 people	\$11,978.40	23%	\$40,178.60
6 people	\$13,540.80	26%	\$38,616.20

Using the 2010 CVRD after-tax median household income as a base, the cost of a basket of nutritional foods becomes substantially more burdensome as household size increases. Recent research by PROOF (2016) found that 20.6% of Vancouver Island households with children are food insecure (PHSA, 2016, p. 2).

The impact of food costs for a single individual can easily be analyzed. In 2010, the after-tax median income of a single person household in the CVRD was \$24,829 and the annual cost of a nutritional food basket for this individual in 2011 was \$5,208 (Statistics Canada, 2013b). This means this individual will spend approximately 21% of their income on food. Keeping in mind CVRD rental costs previously described, in, for example, Duncan (average \$1,033/month = \$12,396) this individual will spend 49% of their income on housing and 21% of their income on food, leaving \$602 per month for general living expenses. Island Health reports that of all food insecure households in B.C., 43% of them are households with one individual (PHSA, 2016, p. 3).

Between 2007 and 2012 food prices in Canada rose a cumulative 19% (Rollin, 2015, p. 3). Overall, in 2017, food prices are expected to rise between 3% and 5% across Canada; this is an above average food price increase (Dalhousie University, 2017, p. 4). Looking forward, unfortunately, the cost of food in B.C. is expected to increase substantially. In their 2017 report

on agricultural land, Vancity Credit Union predicts that food prices in B.C. will increase by as much as 25% to 50% over the next five years (Vancity Credit Union, 2017, p. 2).

Summary

Much of the data, information, and indicators reviewed in the CVRD socioeconomic profile are proxy indicators for food insecurity. The socioeconomic profile provides insight into segments of the population that are likely experiencing food insecurity. Based on the data and information reviewed, several conclusions can be drawn about the CVRD population:

1. The CVRD population is aging; the region's demographics are moving towards an older population composition. The most notable change is that the non-working 65-84 population segment is expected to increase by 40.6% by 2021. The aging labour force may contribute to a downturn in the economy in the long term if industry cannot attract and retain talent/labour. Moreover, should the economy suffer due to labour shortages, this could impact food insecurity as workers struggle to find employment opportunities paying a "living wage."
2. Key economic indicators, such as increasing housing and prices, demonstrate that the CVRD population is facing a heightened cost of living. Moreover, other economic indicators suggest many population segments may be struggling with the cost of rent and food. As noted above, 52% of the tenant households spend more than 30% of household income on rent. Given these economic pressures, poverty will continue to be an issue for a significant portion of the CVRD population.
3. The cost of food is rising steadily and will continue to rise in the CVRD. Rising food costs will significantly impact low-income households and households with three or more children. Households headed by a single female parent with children will be most impacted by rising food prices. A potential increase in food production (more supply) in the CVRD may counteract rising food prices.
4. A significant portion of the CVRD population is food insecure. Based on recent research by PROOF, approximately 21% of citizens with children, and 11% of citizens without children, are food insecure on Vancouver Island (PHSA, 2016, p. 2). Generally, 14% of central Vancouver Island is food insecure (PHSA, 2016, p. 2).

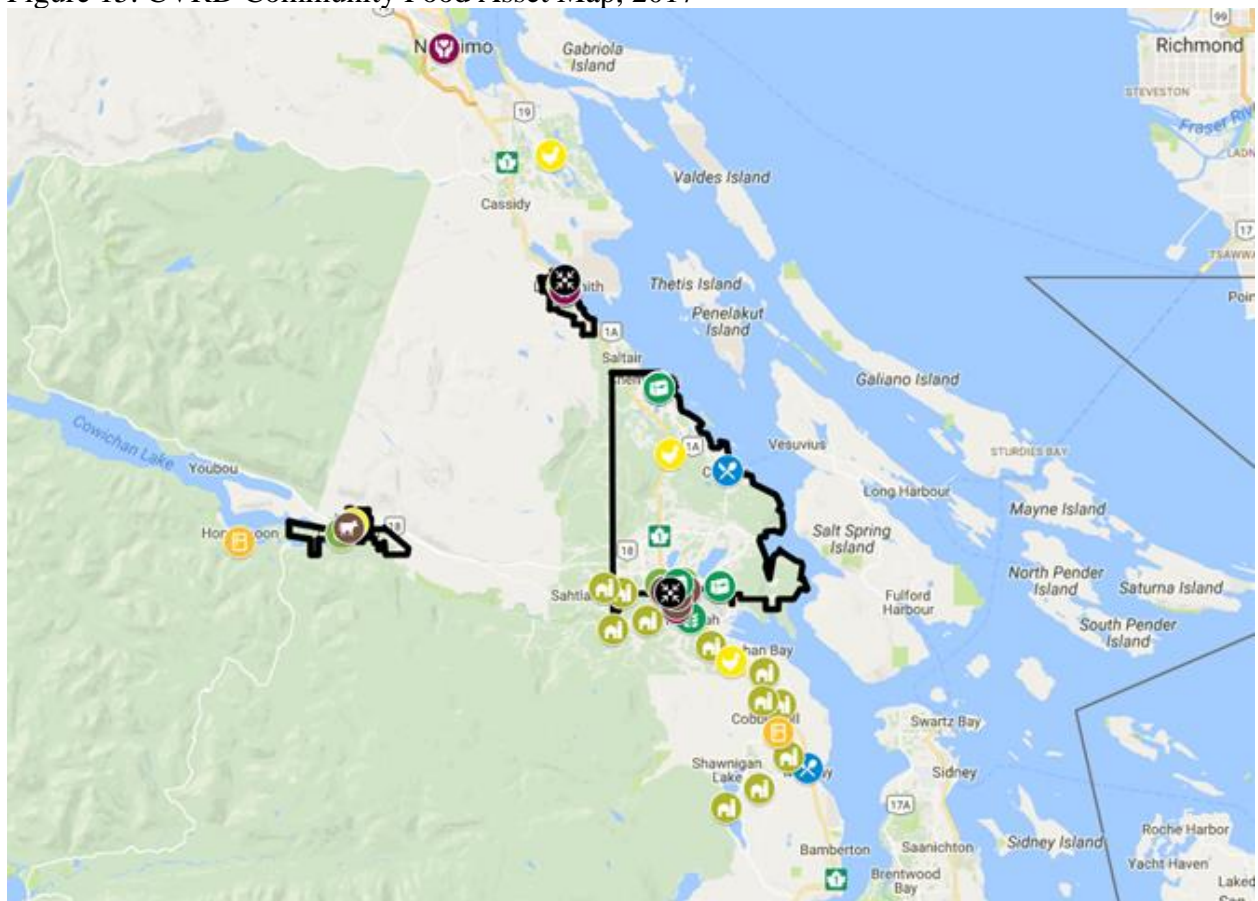
5.3 CVRD Community Food Asset Map and Analysis

Mapping community food assets is a technique that government and non-profits employ to improve a community's capacity to address food insecurity (City of Vancouver, 2017). Moreover, it provides food advocates and policymakers with an understanding of the current food situation in a community. If made public, the community food asset map assists citizens in locating fresh produce, food banks, free meals, community kitchens, and other food resources. The CVRD map is available for viewing here:

https://drive.google.com/open?id=1oQZ284UcSVjiybBx_gzz68WHS9k&usp=sharing

Below in Figure 15, is a snapshot of the food asset map:

Figure 15. CVRD Community Food Asset Map, 2017



Typically, community food asset mapping consists of identifying food assets on a digital map. The Google Maps platform was used to develop a custom community food assets map of the CVRD. The goals of the CVRD community food asset map are to:

1. Identify community food assets to understand the CVRD's current capacity to address food insecurity.
2. Provide the CFSC with information about food assets in four key CVRD communities.

Community Food Asset Map Methodology

Identifying all food assets in the CVRD is beyond the scope of this project. Instead, the researchers focused their attention on identifying food assets in larger CVRD communities: Duncan, North Cowichan, Ladysmith, and Lake Cowichan.

With respect to the map development process, first, the geographical boundaries of the four communities were determined by accessing municipal zoning documents from each of the four community's websites. A custom Google Map was created, and the geographical boundaries of each community were sketched onto the Google Map. The CGC website was used as a starting point to identify food assets. Additional Google and Google Maps searches were performed, as well as website and social media scanning, to identify food assets throughout the four communities. The CFSC expert interviews also revealed food assets.

Food assets chosen for inclusion on the map were based on food assets identified in the PHSA's 2010 document titled "Implementing Food Security Indicators" and are noted below (PHSA, 2010, p. 13).

- Food banks
- Farmer's markets
- Community kitchens
- Community garden
- Non-profit (food focused)
- No-cost food/meal providers (Non-foodbank)
 - e.g. soup/bread kitchens
- Food box provider/programs
- Food co-ops
 - Often, food co-ops did not have a physical location; for example, an online social community was established where community members could participate in a food co-op or share information about food pricing.

See Appendix C - Food Asset Map Legend, for more information.

The food asset map analysis consisted of identifying and counting food assets present in each community. Data was tallied and analyzed in an Excel spreadsheet. See Appendix D for additional information.

Food Asset Summary

Table 3. CVRD Food Asset Summary

Community	Food Bank	Farmer's Market	Community Kitchen	Community Garden	Non-Profit (Food focused)	No-cost Food/M meal Provider	Food Box Provider/Programs (\$)	Food Co-op	Retail Grocery Stores/Market	Total	Total (Excluding Retail Grocery Stores/Market)
Duncan	1	2	2	4	4	5	1	1	6	26	20
Ladysmith	1	1	0	1	1	0	0	1	3	8	5
Lake Cowichan	1	1	2	1	0	1	0	0	2	8	6
North Cowichan (Excluding Duncan)	2	1	0	0	1	1	1	0	6	12	6
Total	5	5	4	6	6	7	2	2	17	54	37

Excluding grocery stores, the food asset mapping activity revealed a total of 37 food assets across the four communities. Including grocery stores, 54 food assets were identified. In Duncan, a total of 20 food assets were identified. Ladysmith had a total of five food assets and Lake Cowichan had a total of six food assets; North Cowichan, the largest community, had only six food assets.

Across the four communities, there are five food banks, five farmer's markets, four community kitchens, six community gardens (with multiple plots), seven food-focused non-profits, seven no-cost food providers (in addition to food banks), two food box providers, two food co-ops, and 17 retail grocery stores. In 2015, the CFSC reported there were 55 grocery stores across the CVRD (Cowichan Food Security Report, 2015, p. 2). However, identifying all 55 grocery stores was challenging. The researchers recognize that there may have been additional food assets available to citizens in the four communities; however, technological limitations impacted the successful identification of those assets.

Duncan

Duncan's 2016 population count is 4,944 people (Statistics Canada, 2017) and despite being the second smallest city under analysis by approximately 1,700 people, it contained the most food assets. Duncan's food community assets are evenly distributed across the community, as supported by the food asset map.

With respect to organizations dedicated to addressing food insecurity, Duncan has one food bank and four non-profit organizations. The Cowichan Valley Basket Society is the main food bank and the Warmland House, the Cowichan Green Community, and Cowichan Community Kitchens provide additional food support to citizens in need. The Warmland House provides the only low-cost food boxes in Duncan and the Cowichan Community Kitchens organization manages all community kitchens across the CVRD (Cowichan Community Kitchens, 2017). In Duncan, there are two farmer's markets, two community kitchens, and five no-cost meal providers. The community kitchens are located in the downtown core of Duncan, potentially providing access challenges to those living outside of this area. The no-cost meal providers consist of the Duncan United Church, the Duncan Reformed Church, the Duncan Pentecostal Church, and the Salvation Army. These religious organizations provide canned goods, soup, and

bread to citizens in need (Duncan United Church, 2017). The referenced churches appear to be a last resort when citizens have exhausted food bank hampers, or cannot access food through the food bank.

Duncan has approximately three times as many community gardens in comparison to the other four communities. Moreover, Duncan has a significant amount of retail grocery stores in comparison to the other communities. Lastly, there is one food co-op in Duncan, the Cow-op, supported by the CGC. Cow-op sales are low, totaling only \$4,000 in 2015 (Cowichan Food Security Report Card, 2015, p. 2).

Ladysmith

Ladysmith's 2016 population count is 8,537 people and is the third smallest community under analysis (Statistics Canada, 2017). Excluding retail grocery stores, Ladysmith has a total of five food assets; including grocery stores, Ladysmith has eight food assets. Ladysmith and Lake Cowichan both have the lowest number of food assets in the CVRD. The majority of Ladysmith's food assets are scattered in the downtown core between first and second avenue. Ladysmith has one food bank, the Ladysmith Resources Centre (commonly referred to as the "Heart on the Hill") to service the food insecure population. The Heart on the Hill is also a non-profit with a strong focus on food programs and initiatives (Ladysmith Resources Centre, n.d.). Heart on the Hill offers a host of food services including a food bank, a soup kitchen, and a plethora of other social services (Ladysmith Resources Centre, n.d.). There is one farmer's market in Ladysmith and no community kitchens for residents to prepare joint meals.

Located in the northeast corner of the community, there is one community garden in Ladysmith. Managed by the Ladysmith Community Gardens Society, a working group similar to the CFSC, the group is made up of volunteers with a passion for community and sustainable gardening and farming (Ladysmith Community Gardens Society, n.d.). Throughout the year, the group organizes a variety of food related events focused on growing food. Unlike Duncan, there are no, no-cost food providers in Ladysmith and no food-box providers. One food co-op exists in Ladysmith called "From Farm to Fork." This food co-op is managed via Facebook where residents across Vancouver Island can request to join; the co-op appears to make deliveries to co-op participants on an ad hoc basis (From Farm to Fork, n.d.)

Lake Cowichan

Lake Cowichan's 2016 population count is 3,226 people making it the smallest of the four communities under analysis (Statistics Canada, 2017). Excluding retail grocery stores, Lake Cowichan has six food assets; unlike its neighbour Duncan, Lake Cowichan's food assets are concentrated in the downtown area. Lake Cowichan has one food bank to service their food insecure population and provides food hampers to those in need (Cowichan Valley Basket Society, n.d.). There is one farmer's market located downtown and one community kitchen located outside of the Lake Cowichan downtown core. Additionally, there is a second

community kitchen located outside of Lake Cowichan, to the west, in Honeymoon Bay. There is one community garden in Ladysmith; according to a local news source, the community garden will be relocating soon (Johnston, 2016). In terms of no-cost meal providers, in addition to the food bank, the Lake Cowichan Christian Fellowship Church offers some free meals (Cowichan Green Community, 2014, para. 18). The only large retail grocery store in Lake Cowichan is the Country Grocer.

North Cowichan

North Cowichan's 2016 population count is 29,676 people and is the largest community in the CVRD (Statistics Canada, 2017). Excluding grocery stores, North Cowichan has seven community food assets. Given the size and vastness of the North Cowichan area, and the four additional communities within their district, they have limited food assets. North Cowichan has two food banks; the Chemainus Harvest House Society Food Bank and the Crofton Food Bank, which is also known as the Warmland Centre (Cowichan Green Community, 2014, para. 2). There is a farmer's market located in Chemainus; however, it is not centrally located where the population can easily access it. Rather, it is located roughly 10 minutes away (by motor vehicle) from downtown Chemainus. There is one food-focused non-profit in North Cowichan, the Cowichan Neighbourhood House; located in Chemainus, it offers free meals, cooking classes, as well as healthy eating classes (Cowichan Neighborhood House, 2017, pp. 8,9). There are no community kitchens and only one community garden in North Cowichan; additionally, there is one no-cost food provider, the Cowichan Neighborhood House. Lastly, there is one food-box provider, run by Providence Farms (Providence Farms, n.d.).

Summary

The food mapping activity revealed a low to moderate amount of food assets in the four communities. Generally, the communities did not appear to have an abundance of food assets and food organizations - food banks are limited. Additional information, descriptions, and analysis of the referenced food assets can be found in Appendix D.

5.4 CFSC and CGC Programs and Initiatives

An understanding of the CFSC and CGC's current programs and initiatives, paired with the region's socioeconomic profile and the community food map, provides a clear picture of the gaps in the CFSC and CGC's program delivery.

Information was gathered both on the CGC's website and by means of telephone and email interviews with members of the CFSC. Qualitative content analysis was used to analyze the data collected from these interviews, requiring a combination of summarization, clarification, and structuring of content in light of context (Flick, 2015, p. 167-169). All interviews were documented in written form, and each question was analyzed across all participants. This methodology aimed to highlight themes and differences across responses.

CFSC Programs and Initiatives

The CFSC works as a collaborative whole to make strategic decisions with respect to their priorities, facilitated by a CGC staff person. Working with its parent organization and community partners, the CFSC has been engaged in several strategic projects over the past eight years including the development of a food security plan, a food security report card, and the Cowichan food charter (Cowichan Green Community, 2014, Cowichan Food Security Coalition).

In the fall of 2016, the CFSC was board to the program “Preserving our Wisdom”. The goal was to teach community members how to preserve food. All workshops and community meal preparations included elder mentors who were “present to share their wisdom and skills to the younger generations” (Cowichan Green Community, 2016, Preserving Our Wisdom, para. 2), and the project was a great success.

Currently, the CFSC is working on the following initiatives (Cowichan Green Community, 2014, Cowichan Food Security Coalition):

1. Food production education programs for Cowichan citizens
2. Lobbying initiatives to promote policy aimed at reducing food insecurity
3. Food waste reduction

CGC Programs and Initiatives

The CGC offer an extensive array of programs, and while the majority are categorized by the household improvements and supports model, the organization offers programs across the three approaches available to community organizations addressing food insecurity. A table summarizing all current CGC programs can be found in Appendix E: Summary of Current and Recommended CGC and CFSC Programs.

Community Food Systems Model

As highlighted in the literature review, the community food systems model is driven largely by partnerships between municipal governments, food activists and local service providers, and is manifested primarily in the form of food charters and food policy councils (Collins et al., 2014, p. 139). By way of partnerships, development of local strategies, and advocacy, initiatives that fall within this model can act as catalysts for food security action at higher levels of government. In turn, these actions can enact change that is beyond the realm of influence of a single organization, or a single municipality. As such, the CGC have launched two initiatives that reflect the community food systems model: the Cowichan Food Charter and the CFSC.

The Cowichan Food Charter, drafted in 2009, puts forward a vision for a food secure Cowichan Valley. This vision includes the CGC’s definition of food security: a situation that exists when

“all members of [the Cowichan] have access to enough nutritious, safe, ecologically sustainable, and culturally acceptable food at all times” (Cowichan Green Community, 2009, The Cowichan Food Charter, p. 1). The CFSC is an initiative that reflects the goals of the community food systems model in that it is the fruit of partnership between municipal governments, provincial stakeholders, food activists, and local service providers.

Household Improvements and Supports Model

The household improvements and supports model focuses on the availability (or supply) of food at the localized level, and the utilization of food by individuals and households. It aims to address food insecurity by emphasizing household knowledge, skill development and empowerment regarding food and food production (Collins et al., 2014, p. 139).

The majority of the CGC’s programs and initiatives fall within the household improvements and supports model. This is in line with the non-profit’s mission, namely to cultivate food, community, and resilience (Cowichan Green Community, 2014, Our Mission, our vision, our values, para. 2). The table below provides a snapshot of the organization’s programs and initiatives.

Table 4. CGC Programs and Initiatives

Name of Program / Initiative	Goal of Program / Initiative
FruitSave	This gleaning program organizes volunteers to harvest backyard fruit that would otherwise go to waste, and that is then shared between the homeowner, the pickers, emergency food providers, and CGC programs (Cowichan Green Community, 2014, FruitSave, para. 1). This project provides fresh fruit to the Cowichan Valley Basket Society, Community Options Society, Cowichan Independent Living, and House of Friendship, amongst others (Cowichan Green Community, 2014, FruitSave, para. 4).
Community Urban Food Forest	The CGC owns a food forest that is located at the back of their offices, and it is filled with edible and medicinal plants as a demonstration of food forestry (Cowichan Green Community, 2014, Community Urban Food Forest, para. 1).
Cowichan Incubator Seed Farm	This project is currently in development, with land in the process of being restored into a productive space that will serve as a community seed bank and centre for seed education and training. Based on the “Incubator Farm” model to train new farmers, the Cowichan Incubator Seed Farm aims to focus specifically on training new seed farmers (Cowichan Green Community, 2014, Cowichan Incubator Seed Farm, para. 1-3).
For the Love of Upcycling	A series of 20 free workshops, facilitated by seniors in the community, aimed at learning how to Upcycle our accumulated “stuff” rather than sending it to a landfill (Cowichan Green Community, 2014, For the Love of Upcycling, para. 1,3).

KinPark Kid's Camp	KinPark Kids Camp is a day camp for children ages 6-12 to learn about gardening and farming. The goal of this project is for children to learn how to grow, harvest, and cook healthy food, while also learning how to live sustainably (Cowichan Green Community, 2014, KinPark Kid's Camp, para. 1).
KinPark Youth Urban Farm	This youth-led urban agriculture demonstration site and working farm is based on the principles of permaculture and organic agriculture (Cowichan Green Community, 2014, KinPark Youth Urban Farm, para. 1). This project aims to train youth in growing food and running a business, while also increasing access to locally and sustainably produced food (Cowichan Green Community, 2014, KinPark Youth Urban Farm, para. 1).
Kinsmen Park Community Gardens	These community gardens offer community members the opportunity to grow fresh food in a plot of their own. The plots are rented every season (Cowichan Green Community, 2014, Community Gardens, para. 3).
Cowichan Lake Community Garden	The CGC was contracted by Island Health to design and build a community garden in Lake Cowichan. It is supported by volunteers, and has been used by the CGC as a location for educational workshops for the public (Cowichan Green Community, 2014, Cowichan Lake Community Garden, para. 1-2).
FoodFit	This program developed by Community Food Centres Canada is being offered through the CGC and brings low-income community members together to set health and fitness goals and to gain skills (Cowichan Green Community Foundation, 2017, FoodFit, para. 1).
Chow Down Family Cooking Classes	This series of 24 classes will be offered to members of the community of lower socioeconomic status in Duncan. They aim to reduce barriers to nutritious, healthy, local food (Cowichan Green Community Foundation, 2017, Chow Down Cooking Classes, para. 1).

Charitable Model

The charitable model encompasses both food distribution and poverty reduction initiatives (Collins et al., 2014, p. 139), and hence addresses the access dimension of food security. Food banks are the most common community-based charitable food assistance programs.

While the CGC does not offer any food bank services, the organization plays a role in delivering the Farmer's Market Nutrition & Coupon program in the Cowichan Valley. The program, launched in 2013 by the BC Association of Farmer's Markets, seeks to provide low-income families and seniors with coupons to spend at their local farmer's market (Cowichan Green Community, 2014, Farmers' Market Nutrition Coupon Program, para. 1), and as such can be considered a poverty reduction initiative.

5.5 Internal Expert Interviews

Methodology

Gathering the perceptions and experiences of CFSC members by means of informational interviews allowed for a better understanding of the organization's context, strengths,

weaknesses, and goals. The researchers interviewed nine CFSC members, and asked them a set of seven questions (see Appendix A: Internal Expert Interview Questions).

Descriptive qualitative content analysis was used to analyze the data collected from these interviews, requiring a combination of summarization, clarification, and structuring of content in light of context (Flick, 2015, p. 167-169). All interviews (including the single telephone interview) were documented in written form, and questions were examined one at a time. Comments and perceptions were recorded in a separate document, and similarities and differences between interviews were noted. Responses to each question were compiled into tables and figures that can be found in Appendix F: Internal Expert Interview Responses.

Data Analysis

Question 1

Responses to Question 1: “How do you define food security? Is your primary interest in regional/community food security (self-sufficiency in agricultural production), household-level food insecurity (families cannot afford nutritious food) or both?” were compiled after having been copied or paraphrased from the nine interviews.

Five participants indicated that they perceive both household food insecurity and community food security as being important. These participants agreed that access to food is critical, while also suggesting that regional food production could act as a solution. One participant indicated that their interest lies exclusively in household food insecurity, and not in agricultural production. Three participants responded that community or regional food security is their primary concern, bringing particular attention to the question of sustainability.

Question 2

In answering Question 2: “Which regional organizations does CFSC/CGC work with to promote food security in the Cowichan? How do you work together?”, participants covered an extensive span of names with limited overlap in their answers.

A number of organizations were named in more than one interview, seemingly indicating a stronger partnership. Vancouver Island Health Authority (VIHA, or Island Health) was referenced as a partner organization by five participants; the Cowichan Valley Food Basket Society was named by three participants; the Cowichan Valley Regional District was put forward by two participants; Meals on Wheels was referenced by two participants; and finally the Healthy Food Basket was put forward as a partner organization by two participants.

The rest of the organizations, which included Community Futures, Neighborhood House, Cowichan Tribes, Buckerfields, Volunteer Cowichan, Ceres Edible Landscaping, and Co-op Gas Stations, were named as partner organizations by one participant.

A number of participants did not indicate specific organizations, but referenced CFSC’s partnerships with “schools,” “municipalities,” and “community gardens.” One participant focused on the CFSC’s lack of collaboration with other organizations rather than indicating any of its partnerships.

Question 3

In gathering responses to Question 3: “Can you identify other organizations that promote food security in the Cowichan that CFSC/CGC is not directly working with?” the researchers noted discrepancies. For example, VIHA was named by four participants as a partner organization in Question 2, yet it was also named by a participant in Question 3. Other organizations that appear on both lists are the Jubilee Community Garden, Cowichan Community Kitchens, “Food Banks”, and “Schools”.

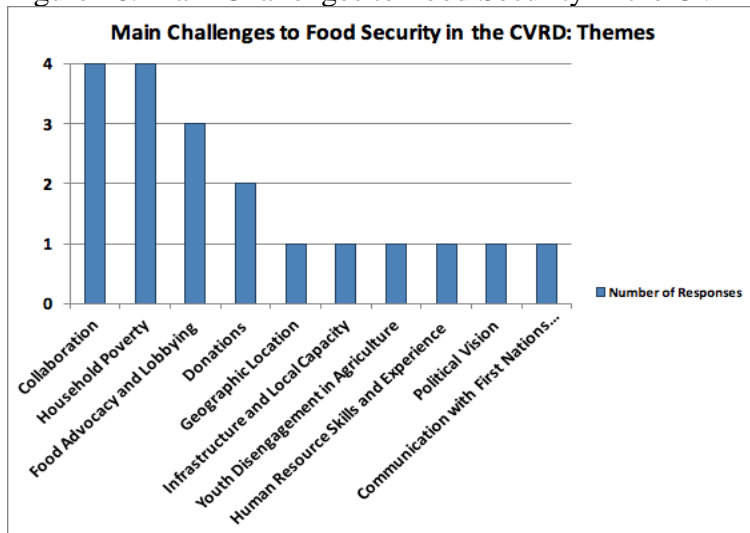
Vancouver Island University (VIU), Providence Farm, and FETCH Good Food Box were all named by two participants. All other organizations were named by only one participant.

A number of answers to Question 3 relied on broad organization types (for instance, “schools” or “groceries”) rather than indicating specific organizations.

Question 4

The following themes emerged when compiling responses to Question 4: “What are some of the main challenges to food security in the Cowichan Region?”.

Figure 16. Main Challenges to Food Security in the CVRD Themes



Four participants indicated that lack of collaboration between organizations was a major challenge to food insecurity in the CVRD. Four participants stressed the exacerbating impact of

poverty on the challenge of food insecurity in the region. Three participants referred to the lack of food advocacy, lobbying, and information as a major impediment to food security in the region. Two participants pointed to the importance of donations, and the challenge of receiving sufficient funds to implement, deliver and maintain programs and initiatives in the long run.

Other responses that were captured by no more than one participant included:

- Challenging geographic location (the region is spread out, and public transportation is limited)
- Insufficient infrastructure and local capacity
- Youth disengagement in agriculture
- Lack of human resource skills and experience in the charitable sector
- Lack of political vision or leadership on the issue
- Lack of communication with First Nations communities

Question 5

The concern for resources was the most notable theme that arose in responses to Question 5: “Which CFSC/CGC programs (if any) are experiencing difficulty and why?”

Five participants considered that resources, both financial and human, are a considerable challenge for the CFSC and CGC to engage in successful program delivery. Lack of funding, in particular lack of long term funding, is a primary cause of strain to the organization.

Question 6

In responding to Question 6 - “Have you considered implementing specific programs not currently offered? If yes, what are they?” - three participants indicated that programs aimed at taking food out of the waste stream were being considered. Two participants suggested the development of greenhouses. Two participants discussed tool or equipment sharing programs. Two participants suggested the creation of a Facebook page to connect people to food. All other programs were proposed by only one participant.

Question 7

In compiling answers to Question 7: “Is the CFSC/CGC planning to develop the program(s) you identified in Question 6? - What organizations might the CFSC/CGC seek funding from to support the programs identified in Question 6?”, the following responses were collected:

- Vancouver Foundation
- Duncan Council
- Project Growing North

- CGC is working on getting two grants (unnamed) right now for a website set up that could connect farmers and the public
- BC Hydro

Five participants did not answer this question, or did not provide any specifics. This lack of responses on this question may be a reflection of poor question wording. It is worth noting that no funding opportunities were identified by more than one participant, indicating a possible lack of consensus within the organization.

Findings

The interviews with CGC and CFSC members highlight the following themes.

First, there are numerous program ideas within the CFSC, but a lack of consensus within the group that has made it difficult to achieve specific goals. This was reflected in the discrepancy between responses to questions, in particular to Questions 2, 3 and 6. One participant stated that there is “some confusion about this [CFSC projects] as some members bring possible joint projects to the table, and others consider the group to be exclusively information sharing and discourage joint projects.” In order to implement successful food security programs and pursue projects that will have an impact on the region’s food system, the CFSC group members need to agree on the CFSC’s mission, goals, and partners.

Second, there is consensus within the group that additional human and financial resources are required. Resources that would support the group in delivering its current programs and in meeting its future goals include volunteers, diversified sources of funding, additional funding partners, and donations.

Finally, in identifying the major challenges to food insecurity in the CVRD, a number of themes emerged including: the need for more collaboration between organizations, the exacerbating impact of poverty on the challenge of food insecurity in the region, and the lack of food advocacy, lobbying and information as a major impediment to food security in the region. These concerns, on which many participants agreed, could be used as a springboard from which the group determines its mission and goals.

5.6 Review of Leading Organizations with Similar Objectives as the CFSC

Overview

The goal of this section is to present the CFSC with possible food security programs and initiatives that are not currently offered in the CVRD. Five organizations were contacted:

- Community Food Centres Canada
- FoodShare
- Good Food Organizations

- LifeCycles Project Society
- PEI Food Exchange
- Depot Alimentaire NDG

Upon reaching out to each organization using publicly available contact information, two organizations agreed to participate in a phone interview: PEI Food Exchange and Depot Alimentaire NDG. Members of the other three organizations declined to participate due to lack of time, hence data was collected online for Community Food Centres Canada, FoodShare, and LifeCycles.

Interview participants were asked the following eight questions:

1. Please tell us about your organization: your mission, your context, etc.
2. How do you define food security? Is your primary interest in regional food security (self-sufficiency in agricultural production), household-level food insecurity (families cannot afford nutritious food) or both?
3. What are some of the main challenges to food security in your region?
4. Can you describe the type of projects and programs you deliver to address food insecurity?
5. How have these programs been successful? How have they not been successful?
6. Have you used any metrics or KPIs to measure the success of your programs? If so, what measurements have you employed?
7. How have you obtained the funding necessary for this program delivery?
8. Do you have any lessons learned you could share?

Qualitative content analysis was used both to analyze the data collected from these interviews and the data collected online. This required a combination of summarization, clarification, and structuring of content in light of context (Flick, 2015, p. 167-169). When researching information online, data was collected from the organization's websites, and the research focused specifically on web pages that covered the organization's history and mission, and web pages that outlined the organization's programs. When transcribing interview data, participant responses were recorded on a computer document word for word, and then summarized and paraphrased according to potential themes and question responses.

Data Analysis

PEI Food Exchange

Data concerning PEI Food Exchange was collected both by interview and by researching the group's website.

The participant representing the PEI Food Exchange described the organization as a grassroots group committed to improving food security on Prince Edward Island. The organization looks at

the food system holistically and promotes the local food system through gleaning, growing food, and gaining knowledge. In answering Question 3 the participant stressed that poverty is considered to be the main challenge to food security in PEI.

The interview with PEI Food Exchange, paired with an exploration of the organization's website, brought to light a number of food initiatives and programs that are not currently being offered in the CVRD. These were compiled into a table (see Appendix G: Review of Leading Organizations with Similar Objectives as the CFSC). In particular, the organization is invested in gleaning programs that involve the harvesting of leftover crops on farmers' fields after the commercial harvest (PEI Food Exchange, 2016, Gleaning, para. 1-2). In addition, the organization prioritizes the sharing of food resources and information within its community by means of handbooks, mentorship programs, a Facebook page, and garden sharing.

Depot Alimentaire NDG

Data on Depot Alimentaire NDG was collected during a phone interview, and to a lesser extent by researching the organization's website.

In answering Questions 1 and 2, the participant described that Depot Alimentaire NDG's mission is to reduce poverty, hunger, and their effects in their community. The organization engages people around issues of food, food security, healthy food, and aims to bring people together to grow, cook, eat and advocate for good food for all. While they focus their resources on food issues local to the Notre-Dame de Grace neighborhood in Montreal, Depot Alimentaire NDG is a part of Food Secure Canada and is becoming a Community Food Centre through Community Food Centres Canada. This is expected to expand their scope of operations in the future.

According to the participant, the major challenge to food security in Montreal and in Canada is poverty and food inaccessibility. Insufficient income paired with high costs of living make it difficult to afford food, while physical barriers such as food deserts, high costs of transportation, or extreme weather, render food inaccessible. They stressed that these accessibility challenges are exacerbated for people living with disabilities, adults experiencing loss of autonomy, and seniors.

The interview with Depot Alimentaire NDG brought to light a number of programs and initiatives that are not offered in the CVRD. Without providing substantial detail, the participant discussed the following successful programs:

- Intergenerational meals in low-income senior apartment buildings
- The Boomer Cafe for older adults who feel marginalized
- Educational gardens in schools
- Programs targeting low-income schools

Additional programs that are promoted on the organization's website can be found summarized in Appendix G: Review of Leading Organizations with Similar Objectives as the CFSC.

The participant identified a number of organizational challenges. First, it is a challenge to develop programs that meet the needs of the community, and it is a challenge to communicate the existence of programs to beneficiaries. As such, efficient use of social media and effective communication with participants are critical to program success. Second, enrollment in community gardens has been challenging for the organization. One strategy to increase program participation rates is to blur the lines between community participant and volunteer, in particular for youth. This strategy benefits the organization by increasing the number of volunteers supporting them, and it benefits youth community participants by empowering them through volunteer work.

In answering Question 6, the participant highlighted two specific strategies to measure program success. First, Depot Alimentaire NDG distributes an annual program survey that allow program participants to complete program evaluations. Second, the organization implements logic models and provides space for oral assessments of all of their programs.

In response to Question 7, the participant explained that the organization receives funding from youth organizations, health organizations, private foundations, and individual donations (35% of their total income). The organization also generates income through some of its initiatives including production gardening.

Finally, the participant provided the following advice (paraphrased from the telephone interview):

- Hire a full-time employee dedicated to fundraising
- Program evaluation: Approach an organization with expertise (for example Community Food Centres Canada) to support you with your evaluations
- Become good at telling your organization's story
- Find out about donors and what they're interested in
- Consider fundraising as an opportunity for the organization to tell the community the impactful work that is happening in the community and the ways that they can get involved

Community Food Centres Canada

Data regarding Community Food Centres Canada was exclusively retrieved online, on the organization's website.

Community Food Centres Canada works in partnership with a large number of successful food security organizations across Canada, and an interview with a representative might have resulted

in considerable insights into the success of these organizations. Specifically, the researchers hoped to gain insight into what makes collaboration successful. However, Community Food Centres Canada did not respond to interview requests, and the information below was compiled exclusively from information available on the organization's website.

Community Food Centres Canada is leading two initiatives that could become future resources for the CFSC/CGC: Community Food Centres and Good Food Organizations. In effect, Community Food Centres Canada is working to develop 12 Community Food Centres across Canada, with the goal of building health and community by improving food access, food skills, and food education and engagement (Community Food Centres Canada, 2017, Our Community Food Centres, para. 1). In addition, the Good Food Organizations initiative aims to increase the capacity of community food security organizations across the country through resources, training, grants, and chances to network and promote shared priorities (Community Food Centres Canada, 2017, Good Food Organizations, para. 1).

If the CFSC/CGC aimed at becoming a Community Food Centre or Good Food Organization, they might enjoy resource support from Community Food Centres Canada and its network of successful food security organizations.

FoodShare

Data regarding FoodShare was exclusively retrieved online, from the organization's website.

FoodShare is a non-profit organization that works to deliver healthy food and food education (FoodShare, n.d., About, para. 1), by supporting community led projects that increase access to vegetables and fruits (FoodShare, n.d., Vision, Mission & Values, para. 2). All of FoodShare's work is guided by their commitment to food security and food justice (FoodShare, n.d., Vision, Mission & Values, para. 2).

FoodShare offers a number of innovative programs including "Field to Table Catering", "ShareBaskets", and "Mobile Good Food Market" (FoodShare, n.d., Programs). Two of these programs offer creative solutions to fundraising, while the third offers an effective example of a charitable model program. FoodShare also champions the concept of Food Justice, and is thus committed to a community food systems model approach. The organization invests time into community development and raises awareness regarding the inequities that impact an individual's access to food (FoodShare, n.d., Food Justice).

A table describing the programs offered by FoodShare can be found in Appendix G. Programs already offered in the CVRD, including good food box programs, community gardens, emergency food programs, food literacy programs, and community kitchen programs, were not included in the table.

LifeCycles Project Society

Data regarding LifeCycles Project Society (hereafter: LifeCycles) was exclusively retrieved from the organization's website.

LifeCycles's mission is to support the Greater Victoria region in growing, accessing, and eating local food in ways that foster diversity and enhance the urban environment (LifeCycles, 2017, About Us, para. 1). LifeCycles deliver, or have delivered in the past, a number of projects that are not currently offered in the Cowichan region. Those programs can be found summarized in a table in Appendix G. The organization pays particular attention to youth in its program delivery. In particular, it has provided space necessary for Aboriginal youth to share and learn about traditional foods (LifeCycles, 2017, Past Projects, para. 4).

Findings

The review of leading organizations with similar objectives as the CFSC achieved its primary goal, and brought to forefront a diverse range of food security programs that are not currently offered in the CVRD. In addition, four themes can be distilled from the research.

First, successful food security program delivery relies on understanding community needs. For example, FoodShare understands food access and poverty as the primary exacerbating challenge to food security in their community. The organization thus implements programs that reflect this understanding of the problem, including a mobile food market that directly distributes affordable food to vulnerable populations, specifically in food deserts. Or, Depot Alimentaire NDG's Boomer Cafe and intergenerational meal programs specifically target seniors and adults experiencing a loss of autonomy. This vulnerable population is not commonly served by food security programs, despite the fact that populations are aging faster than they are growing across the world (United Nations, 2015), and in the CVRD (see Figure 4 - 2011 Population vs. 2021 Projected Population).

Second, communication arose as a prominent theme throughout this research activity. The representative for Depot Alimentaire stressed that effective program delivery means effectively communicating with target program beneficiaries. Program beneficiaries need to be aware that the programs exist. PEI Food Exchange's strategy to address this challenge lies partly in the effective use of technology. Indeed, the organization's Facebook group is used as a tool to encourage resource sharing within the community, and their website Food Exchange attempts to facilitate garden sharing. In addition, program delivery improves when beneficiaries have the opportunity to express their program needs. Depot Alimentaire NDG thus encourages regular and formal oral and written evaluations of all of their programs.

Third, strategic fundraising is key to having the resources necessary for successful program delivery. One strategy that emerged from the research is to raise funds internally. For instance, Depot Alimentaire NDG and FoodShare both run production gardens that allow them to produce large quantities of food that can then be used in a myriad of ways, including for fundraising. In

addition, Depot Alimentaire NDG's representative indicated that individual donations continue to be an important source of income for their organization. As such they invest time to be proficient at telling their story, sharing their mission, and encouraging the communities they are serving to participate in their vision.

Finally, collaboration stands out as an essential resource to deliver successful food security programs and to enact long-lasting food system changes. PEI Food Exchange collaborates with farmers and gardeners and encourages small scale community collaboration; Depot Alimentaire NDG collaborates on a larger scale with government and health organizations, who refer individuals to the programs that would benefit them; FoodShare collaborates extensively with local grassroots organizations working on all aspects of food justice (including poverty and discrimination); Community Food Centres Canada creates country-wide food networks; and finally LifeCycles collaborates with schools, youth, educators, and First Nations communities within its community.

5.7 Funding and Financial Opportunities

The identification and successful retention of funding opportunities is critical for non-profit organizations to thrive. The CGC has a diverse group of funding partners, including Island Health, the City of Duncan, and the Province of British Columbia providing financial support to their programs and initiatives (CGC, 2014, Funders and Partners). The CFSC, acting as a working group overseeing specific food initiatives, align their strategic priorities with those of the CGC. Currently, the CFSC does not receive funding from external sources. However, they intend to begin exploring new sources of capital to foster the expansion of their programs.

A key theme emerging from the CFSC interviews is the group is struggling to find and obtain funding, impacting their ability to achieve their mission and implement the programs they discuss. This appears not only to be impacting the CFSC, but also CGC programs, such as Fruit Save and the Incubator Seed Farm. Therefore, potential funding opportunities are presented, assessed, and discussed in this section.

Methodology

Funding sources come from both the private and public sector and strict requirements must be met before financial resources are distributed to a non-profit organization or charity. Almost always, an organization must be registered as a non-profit or charity in British Columbia to apply for funding from a private or public-sector organization. Given that the CFSC is a working group, this limits its ability to secure financial resources; however, the CGC is a well-known, registered non-profit making it the better entity to seek out funding for food insecurity programs and initiatives. To locate potential funding opportunities for the CFSC, several actions were executed. First, Google searches were conducted using the search terms “non-profit funding British Columbia,” “non-profit grants British Columbia,” and “food insecurity funding; British Columbia.” Any leads to funding opportunities were identified and documented. Furthermore, CharityVillage.com, was consulted as this organization amalgamates lists of organizations that

donate to non-profits and charities. Lastly, B.C. Government websites were scanned for funding opportunities. Potential funding opportunities were assessed based on the criteria outlined below:

1. If a public or private organization specifically identified on their website or marketing collateral that they support food security or hunger reduction initiatives, programs, and non-profits then these funding opportunities were classified as “good.”
 - a. If the organization was a Vancouver Island business, and stated they were dedicated to food security initiatives, they were designated as a potential partner.
2. If a public or private organization identified on their website, or marketing collateral, that they support initiatives, programs, and non-profits focused on alleviating poverty, or the effects of poverty in B.C. communities, then these funding opportunities were classified as “moderate.”

Exclusion criteria:

If a public or private organization specifically highlighted that they only donate to a specific type of initiative, program, non-profit, or charity, and it was not poverty, hunger, or food related, then it was not included as a funding opportunity. Importantly, larger funding opportunities were preferred over small funding opportunities to offset application and proposal labour costs.

Good Funding Opportunities and Potential Partnerships

Table 5. Good Funding Opportunities: Organizations and Descriptions

Organization/ Business	Organization/ Business Type	Description	Level of Effort (L, M, H, U)
Epicure Foundation	Foundation	The Epicure Foundation makes donations to food security initiatives. Note that there is a large grant available as of September 1, 2017 for organizations addressing food insecurity (Epicure Foundation, 2015).	M
Maple Leaf	Private	Recently, Maple Leaf established the Maple Leaf Centre for Action on Food Insecurity. They are open to funding and working with local and national partners. The application process is extensive (Maple Leaf Centre for Action on Food Security, n.d.).	H
The Real Estate Foundation of B.C.	Public	The Real Estate Foundation of B.C. directly supports non-profits that are addressing and improving food insecurity and food systems in B.C. Communities. The CGC has received funding from this group before (The Real Estate Foundation of B.C, n.d.).	H
Evergreen	Public	A Canadian Charity, Evergreen is dedicated to improving communities across Canada. Specifically, their 1% Seeds of Change grant program donates to organizations building community gardens (Evergreen, 2017).	M

NutritionLink	Public	NutritionLink distributes annual grants to B.C. charities working to eliminate food insecurity in B.C. communities (NutritionLink, 2016).	M
Grow Local Program	Public	A B.C. Provincial Government initiative, the Grow Local program provides funding to organizations that are helping British Columbians produce their own food. This opportunity is now closed; however, it may be available in the future (B.C. Investment Agriculture Foundation, n.d.).	M
Vancity Credit Union EnviroFund	Co-op	Vancity's EnviroFund Grant offers funding opportunities to organizations addressing food insecurity. Information about 2018 funding opportunities will be released in the next few months. Note that Vancity operates on Vancouver Island and is actively engaged in the food security conversation (Vancity, 2017).	H
Community Food Centres Canada	Public	Good food grants are available to organizations building food programs. Recipients must be good food organizations (Community Food Centres Canada, 2017).	M
Fiskars	Private	Fiskars offers grants for the development of community gardens programs under their Project Orange Thumb initiative. Recently, Highland Park Recreation Association in Victoria, B.C. was awarded with capital for a community garden project (Fiskars, n.d.).	L
Whole Foods (local business) *Potential partner	Private	Whole Foods are active donors to food banks and support community food initiatives (WholeFoods, 2017).	
Safeway (local business) *Potential partner	Private	Safeway donates millions of dollars to food banks and other food initiatives in B.C. each year. Although they do not specify that they donate to non-profits and grassroots organizations, given the alignment of their goals and objectives with the CFSC/CGC, it is recommended that contact be made to explore partnership opportunities and financial support (Safeway, 2017).	

Moderate Funding Opportunities

Table 6. Moderate Funding Opportunities: Organizations and Descriptions

Organization/Business	Organization/ Business Type	Description	Level of Effort (L, M, H, U)
B.C. Community Gaming Grant	Public	This grant supports non-profit organizations that are developing programs to benefit British Columbians. Grant requirements are broad; however, in the past, the grant has been awarded to other food security initiatives (DiverseCity, 2014).	H

Small Change Fund	Public	This is a crowdfunding initiative. The Small Change Fund helps communities across Canada deliver community programs and initiatives. The CFSC might pursue this type of channel for community garden development (B.C. Government, 2017).	M
First West Credit Union *Potential partner	Co-op	First West is actively engaged with hunger and food insecurity on Vancouver Island. First West owns Envision Financial, as well as Island Savings, and several other credit unions that are also engaged with their communities in the areas of food insecurity and hunger. Exploring and engaging any one of their credit union's community partnerships division is likely to yield potential funding and partnership opportunities (First West Credit Union, 2017).	U
Investors Group	Private	Investors Group supports initiatives that benefit local communities directly. Investors Group is located across Vancouver Island and suggests contacting a local office for donation and funding information (Investors Group, 2017).	L-M
The McConnell Foundation	Foundation	This McConnell Foundation is focused on food insecurity and food systems in Canada; however, they are not currently accepting unsolicited proposals for funding for food initiatives. This opportunity is for future consideration (McConnell, 2017).	NA

Summary

This section identified several funding opportunities the CFSC could pursue as well as potential community partners. When identifying funding opportunities, it is important to have a strategy as well as a resource dedicated to this work. Moreover, it is important to have clear goals and objectives with respect to the type and amount of funding needed.

6.0 RECOMMENDATIONS

The situation analysis elaborated for the CFSC culminated into five recommendations for the working group. These stem from the project’s findings and address its research question and its goals. Recommendations 1, 2 and 3 are focused on the internal operations of the CFSC, while recommendations 4 and 5 offer suggestions regarding external operations (program delivery).

6.1 Internal Operations

The CFSC expert interviews revealed a significant amount of dissonance amongst members regarding the vision, mission, and general purpose of the working group. For example, conceptually, group members comprehend food insecurity differently, as outlined in the data analysis of Question 1 in section 5.6: Internal Expert Interviews. This affects how the group approaches addressing food insecurity. If they are working towards different outcomes and visions, then there will not be harmony in resource allocation. Naturally this impacts organizational efficiency, and ultimately, program and service outcomes.

Moreover, CFSC members have different opinions about where the CFSC should be focusing its time and energy, as outlined in the findings of section 5.6: Internal Expert Interviews. Indeed, one participant stated there is “confusion about this [CFSC projects] as some members bring possible joint projects to the table, and others consider the group to exclusively information sharing and discourage joint projects.”

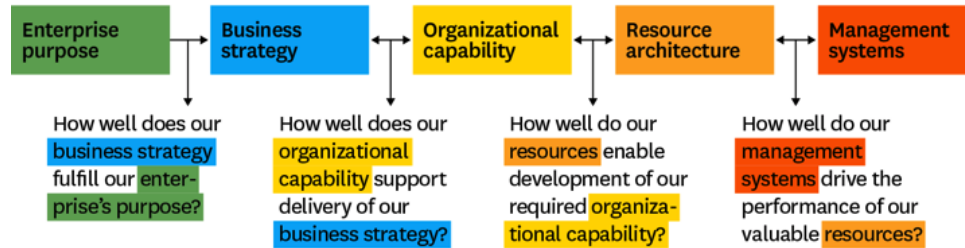
Furthermore, the expert interviews indicate that there is no clear consensus about what the purpose of the CFSC is and where they are headed. There was general consensus about *why* the CFSC existed (to reduce food insecurity), but there was not agreement about what “reducing food insecurity” looks like in practice. For example, fewer individuals who are hungry, more community gardens, or more community awareness of the problem.

Organizational alignment is critical to effectively achieving meaningful business outcomes (Trevor & Varcoe, 2017). Organizational alignment occurs when a team’s purpose (“why we do it” and “what we do”) is closely tied to the business strategy (“what are we doing”) which in turn is connected to organizational capability and the underlying management systems (Trevor & Varcoe, 2017, para. 3). This relationship is highlighted below in Figure 17.

Figure 17. The Interdependent Components That Make Up a Strategically Aligned Enterprise

The Interdependent Components That Make Up a Strategically Aligned Enterprise

The value chain is only as strong as its weakest link.



SOURCE JONATHAN TREVOR AND BARRY VARCOE

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Source: Trevor & Varcoe, 2017

The evidence gathered in this situation analysis suggests that the CFSC has reached a point in its trajectory where it needs to revisit its mission, vision, and purpose. Before new programs or services are adopted, or a new strategy is implemented, there needs to be consensus about what the working group is working towards.

Recommendation 1 – Review and solidify the CFSC’s mission, vision, purpose, and core values

The CFSC should conduct a 1-2 day strategic planning session where CFSC members identify their “who, what, when, where, and why” the plan may also:

- Identify innovative programs and strategies to be implemented
 - The CFSC may want to consider using tools, such as a business model mapping canvass, to help organize their thoughts and ideas around a value stream.
 - A business model canvas helps organizations identify their purpose, business channels, key value propositions, key activities, target audience, and revenue streams (Strategyer, 2017).
 - The CFSC may also want to consider executing Simon Sinek’s golden circle tool to continue building and refining their brand and story (Vajre, 2017).

Based on the outcomes of the above planning activities, the CFSS should develop a 3-5-page strategic plan and have each CFSC member sign it, signaling their commitment to the plan. The CFSC should develop a concrete terms of reference document bringing structure and rigour to team meetings and ensure project progress is closely monitored.

Recommendation 2 – Consider a hybrid nonprofit business model to generate revenue

Prior to the start of this project, CFSC leadership indicated financial resources were constrained and the expert interviews verified this claim. In addition to donations and fundraising activities, there are several business models that nonprofits can implement to be successful; Stanford Social Innovation Review suggests there are 10 key business models that non-profits can implement to generate money (Landes, Kim & Christiansen, 2009).

Should the CFSC not register as a charitable or nonprofit organization, they will need to generate revenue. The CFSC has indicated they have tried this approach before with some success. For example, a gift shop is integrated with the CGC organization. Today, many nonprofits are trending towards a hybrid business model to offset reliance on charitable donations and grants (Delventhal, 2015). Indeed, a for-profit business model will enable the CFSC to generate revenue to achieve their program and service objectives.

The review of leading organizations with similar objectives as the CFSC revealed several examples of other food nonprofits that have introduced a hybrid model to generate profit to accomplish their goals and objectives. The CFSC may want to generate revenue through production gardening, sharebaskets, or even a juice bar. Collectively, the CFSC has a significant amount of food skills and wisdom and operationalizing this knowledge to form a small business may be a powerful way to both generate income and provide services to the Duncan community.

Naturally, there are startup costs when launching a new venture and the CFSC may want to explore crowdfunding or a grant to launch their initiative. Communicating to potential customers that all revenue generated is returned to the community via programs, services, and charitable donations is a powerful marketing message that will likely resonate with the community oriented people of Duncan.

Recommendation 3 – Consider a branding and digital strategy for the CFSC

There is a lot of noise in the marketplace today; noise is created when marketers are all competing for their audience's' attention at the same time. Indeed, like the private sector, the nonprofit space is a highly competitive landscape. Organizations must find a way to differentiate their services, stand out, and connect with their audience. Smart organizations invest time in discovering who they truly are and use emotion to elicit a response from their target audience.

The review of similar organizations with similar objectives as the CFSC found that branding is important to connecting with one's target audience; indeed, the CFSC needs to become very good at telling their story and attracting similar minded individuals dedicated to eliminating food insecurity.

The CFSC should review its brand and organizational narrative to better connect with its audience and drive donations and community engagement. By first engaging in basic strategic planning, as outlined in recommendation 1, the CFSC will identify who and what they are. The narrative and brand will naturally emerge from this process. Once complete, the CFSC should

look to digital channels, like social media, to convey their message and develop a broader following.

Developing a digital strategy is a complex undertaking. Moreover, a digital strategy is not always understood by organizations. In the context of this report, an example of a digital strategy for the CFSC might consist of approaching businesses in the CVRD with heavy traffic⁷ and high sales and asking them to open a donation portal on their business website. For example, a credit union may be willing to add a link or portal to their website where credit union members can donate to the food security cause. In this way, the CFSC captures new revenue by using another business's brand equity and traffic. Moreover, the CFSC/CGC can leverage internet traffic from the business and redirect it to their website. There is little financial investment required in this example.

6.2 External Operations: Program Delivery

In developing recommendations to help the CFSC prioritize food security programming, it is relevant to consider the project's conceptual framework. In effect, while the CFSC and its partners in the region deliver programs that fall within the household supports and improvements model, there are gaps in the delivery of programs categorized by the community food systems and charitable models, other than food banks.

In parallel, the CVRD socioeconomic profile and the literature review findings highlight potential target beneficiaries for CFSC programs. The literature suggests that low income is a key factor to household food insecurity (Olson & Rauschenbach, 1997), and that certain population segments tend to have lower incomes and be more vulnerable to food insecurity, including single female parents (CCHS, 2004, Cycle 2.2) and people who are black or Aboriginal (PROOF, 2014, p. 13). In addition, research found that in 2012, 70% of Canadian households dependent on social assistance as their primary source of income were experiencing some form of food insecurity (Tarasuk, et al., 2014, p.1408; PROOF, 2012, para. 5).

In effect, 2.1% of the CVRD is on income assistance, 0.4% higher in comparison to B.C. (VIHA, 2015, p. 5); 10% of the CVRD population is Aboriginal and 12% are immigrants (Statistics Canada, 2013b); and there were a total of 2,760 female lone-parent families in the region in 2011 (Statistics Canada, 2013h).

It is also relevant to discuss the region's fastest growing population. B.C. Statistics projections suggest the CVRD population is aging faster than it is growing (2017), and the population segment aged 75 and over in the Cowichan area is forecasted to double by 2033 (VIHA, 2013, p. 1).

In light of this data, the CFSC has the opportunity to deliver programs that fall within the community food systems and charitable models and that target the CVRD population segments

⁷ Heavy traffic in brick and mortar shops or heavy website traffic.

most vulnerable to food insecurity. The project suggests the following options for the CFSC's consideration:

Recommendation 4 - Leverage the CFSC's strengths to alter the CVRD's community food system

The CFSC has a strategic advantage due to its size and the scope of its membership. Indeed, the group is composed of representatives of food security organizations across the region and of motivated community-members. Armed with a strong understanding of their mission, vision, purpose and core values, the CFSC could be well positioned to engage in lobbying and advocacy initiatives.

Specifically, the group has expressed interest in working in partnership with grocery stores across the CVRD and across B.C. to reduce food waste in the Province.

The issue of food waste in Canada and in B.C. has been extensively covered in the field of food security, and is a topic that has been present in Canadian media (Mancini & Vellani, 2016; Tobin, 2016; Mortillaro, 2016). An extensively cited report by Value Chain Management International Inc. concluded that the quantifiable value of food waste in Canada is \$31 billion annually (Gooch & Felfel, 2014, p. 5). As a result of this issue's visibility in Canada, there are many resources available to the CFSC to support its goals. In particular:

- The National Zero Waste Council has developed a National Food Waste Reduction Strategy, and is active in cross-sector collaboration to enact national policy changes on this issue (National Zero Waste Council, 2016).
- The BC Centre for Disease Control Environmental Health Services, the Greater Vancouver Food Bank, Metro Vancouver, and Food Banks BC have developed industry food donation guidelines to support food organizations (including retailers, processors and restaurants and caterers) in the donation of food (2015).
 - This report could be useful to the CFSC in its conversation with food retailers in the region.

Recommendation 5 - Develop charitable programs that reflect the composition of the CVRD population and that meet the needs of the most vulnerable

In addition to implementing programs that fall within the categorization of the community food systems model, the CFSC has the opportunity to deliver programs that respond to the needs of those most vulnerable to food insecurity in the region. This would include programs benefiting seniors, aboriginal people, lone-female parent households, and people experiencing low-income.

Successful program delivery would benefit from collaboration and communication with these population segments to ensure an appropriate understanding of their needs. In delivering a program, the review of leading organizations with similar objectives as the CFSC also points to

the importance of providing intentional space for participant feedback, which in turns feeds into future program design.

Examples of possible initiatives include:

- FoodShare’s mobile food market, that aims to address the food security needs of low-income people living in food deserts.
- A Farmer’s Market Leftover Recovery program attempting to connect fresh produce to food insecure people in the community (Food Forward, 2017, Farmers Market Recovery).
- Depot Alimentaire NDG’s intergenerational meals, which look to reduce food insecurity and social isolation for seniors in their community.
- LifeCycles’ attempts at creating spaces to discuss access to traditional food for aboriginal people in Victoria.
- An affordable or free daycare centre for children living in lone-female parent households, that focuses specifically on growing and cooking food, might address the time needs and constraints of this population.

7.0 CONCLUSION

This report was designed to improve the CFSC's understanding of the food security landscape in the Cowichan Valley Regional District (CVRD) to help strategically align their services to meet community needs and better rationalize programming proposals to potential funders. As such, the situation analysis sought to answer the research question "what suite of activities and programs can the CFSC implement to best meet the food security needs of the CVRD and what strategies can the organization develop to implement these programs and activities?"

The project had three main objectives to answer the research question:

1. Research the extent of food security in the CVRD by performing a situation analysis, including community food asset mapping, shedding light on food insecurity in the CVRD.
2. Identify an array of food security programs by reviewing other leading, innovative food security non-profits to recommend a tailored suite of new programs/activities the CFSC could perform to best meet the needs of the CVRD.
3. Provide recommendations to help the CFSC prioritize food security programming.

In responding to the first objective, the report found that 14% of the CVRD population could be food insecure. Key economic indicators, for example, increasing housing prices, demonstrated that the CVRD population is facing a heightened cost of living, which is exacerbating the experience of poverty. In addition, four key CVRD communities - Duncan, North Cowichan, Ladysmith, and Lake Cowichan - revealed a low to moderate amount of food assets. Finally, interviews conducted with CFSC members demonstrated a need for the group to define their mission, values, and objectives.

In responding to the second objective, research was conducted on five leading food security organizations across the country, bringing to light a number of innovative food programs not currently delivered in the CVRD, such as the mobile food market or intergenerational meals. In particular, what was identified was a need to deliver programs defined by the community food systems and charitable models of food security, and targeting the population most vulnerable to food insecurity in the CVRD.

Finally, in addressing the third objective, the report proposes the following recommendations:

1. Review and solidify the CFSC's mission, vision, purpose, and core values.
2. Consider a hybrid nonprofit business model to generate revenue.
3. Consider a branding and digital strategy for the CFSC.
4. Leverage the CFSC's strengths to alter the CVRD's community food system.
5. Develop charitable programs that reflect the composition of the CVRD population and that meet the needs of the most vulnerable populations.

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9.0 APPENDICES

Appendix A - Internal Expert Interview Questions

1. How do you define food security? Is your primary interest in regional/community food security (self-sufficiency in agricultural production), household-level food insecurity (families cannot afford nutritious food) or both?
2. Which regional organizations does CFSC/CGC work with to promote food security in the Cowichan? How do you work together?
3. Can you identify other organizations that promote food security in the Cowichan that CFSC/CGC is not directly working with?
4. What are some of the main challenges to food security in the Cowichan Region?
5. Which CFSC/CGC programs (if any) are experiencing difficulty and why?
6. Have you considered implementing specific programs not currently offered? If yes, what are they?
7. Is the CFSC/CGC planning to develop the program(s) you identified in question 6? - What organizations might the CFSC/CGC seek funding from to support the programs identified in question 6?









Appendix B - Review of Leading Organizations with Similar Objectives as the CFSC Interview Questions


1. Please tell us about your organization: your mission, your context, etc.
2. How do you define food security? Is your primary interest in regional food security (self-sufficiency in agricultural production), household-level food insecurity (families cannot afford nutritious food) or both?
3. What are some of the main challenges to food security in your region?
4. Can you describe the type of projects and programs you deliver to address food insecurity?
5. How have these programs been successful? How have they not been successful?
6. Have you used any metrics or KPIs to measure the success of your programs? If so, what measurements have you employed?
7. How have you obtained the funding necessary for this program delivery?
8. Do you have any lessons learned you could share?

Appendix C - Food Asset Map Legend

Below, the food assets identified on the Google food asset map are listed, along with a Google icon, so they can easily be identified on the Google map. At times, there is overlap between some food assets classifications; for example, the Warmland House is food box provider and a non-profit organization. Therefore, two icons exist at one geographic point on the map. Furthermore, some food assets had to be co-located with another asset group on a Google map layer because of Google maps has a limited number of layers that may be used on a single map.

Table 7. Food Asset Map Legend

Food Asset	Icon	Colour/Description	Definition/Description
Food bank		A knife and spoon on a blue background	A charitable organization providing no-cost meals and food hampers to CVRD residents.
Farmer's market		A white chicken on a yellow background	A local market where CVRD farmers distribute locally grown produce, meat, and other goods directly to CVRD residents.
Community kitchens and Community Gardens	 	Community kitchen = a white fridge on an orange background Community garden = a white flower on a green background	A physical location in the CVRD community where citizens can prepare meals using the facilities and equipment provided by the community kitchen. These kitchens may serve as food networking hubs where food information is shared and communicated amongst residents. A community garden is a location where CVRD residents can grow their own produce. Often, community gardens grow produce for use at food banks and other charitable organizations.
Non-profit (food focused)		White hands clasping a white heart on a burgundy background	CVRD non-profit organizations that primarily focus on developing and implementing food security programs and initiatives. Generally, these organizations are not food banks; however, some do provide free meals and other food services to CVRD citizens.
No-cost food provider		A white cow on a brown background	A public or private organization that provides no-cost meals to CVRD citizens.
Food box provider/program and food co-ops	 	Food box provider = a white chest on a green background Food co-op = white arrows on a black background	Food box providers create boxes of nutritional food for purchase by residents for a nominal fee. Food co-ops bring members of a community together using, for example, an online social network. Food co-ops purchase food together to take advantage of economies of scale. Food is typically distributed to members based on preset schedule.

Retail grocery stores and markets		A white shopping cart on a black background	Retail locations where CVRD citizens can purchase food at market prices.
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Appendix D - Food Map Analysis

For full size files, please contact the researchers.

Community	Food Bank	Farmer's Market	Community Kitchen	Community Garden	Non-Profit (Food focused)	No-cost Food/Meal Provider	Food Box Provider/Programs (\$)	Food Co-op	Retail Grocery Stores/Market	Total	Total (Excluding Retail Grocery Stores/Market)
Duncan	1	2	2	4	4	4	5	1	1	6	20
Ladysmith	1	1	0	1	1	1	0	0	1	3	5
Lake Cowichan	1	1	2	1	0	1	0	0	2	8	6
North Cowichan (Excluding Duncan)	2	1	0	0	1	1	1	0	6	12	6
Total	5	5	4	6	6	6	7	2	2	17	37

Municipality	Food Bank	Farmer's Market	Community Kitchen	Community Garden	Non-Profit (Food focused)	No-cost Food/Meal Provider	Food Box Provider/Programs (\$)	Food Co-op	Retail Grocery Stores/Market	Total	Total (Excluding Retail Grocery Stores/Market)	
Duncan	<ul style="list-style-type: none"> Community Kitchen (Duncan) Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Community Kitchen (Duncan) Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada Community Kitchen (Duncan) Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Community Garden (Duncan) Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada Community Garden (Duncan) Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada Market Place Location: 1111 Gordon St, Duncan, BC V9L 9Y9, Canada
Ladysmith	<ul style="list-style-type: none"> Ladysmith Community Kitchen Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Community Kitchen (Ladysmith) Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Community Garden (Ladysmith) Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada
Lake Cowichan	<ul style="list-style-type: none"> Lake Cowichan Food Bank Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Community Kitchen (Lake Cowichan) Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Community Garden (Lake Cowichan) Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada
North Cowichan	<ul style="list-style-type: none"> Community Kitchen (North Cowichan) Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Community Kitchen (North Cowichan) Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Community Garden (North Cowichan) Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada 	<ul style="list-style-type: none"> Market Place Location: 1111 Gordon St, Ladysmith, BC V9L 9Y9, Canada

Appendix E - Summary of Current and Recommended CGC and CFSC Programs

Table 8. Summary of Current and Recommended CGC and CFSC Programs

<i>Community Food Systems Model</i>	<i>Household Improvements and Supports Model</i>	<i>Charitable Model</i>
Cowichan Food Charter	FruitSave	Farmer's Market Nutrition & Coupon program
CFSC	Community Urban Food Forest	Mobile Food Market
Cross-sector Collaboration on Food Waste	For the Love of Upcycling	Intergenerational Meals
	KinPark Kid's Camp	Discussion: Access to Traditional Foods
	KinPark Youth Urban Farm	Food Security Daycare Centre
	Kinsmen Park Community Gardens	
	Cowichan Lake Community Garden	
	Food Fit	
	Chow Down Cooking Classes	

*Current programs in green; recommended programs in red.

Appendix F - Internal Expert Interview Responses

Question 1: How do you define food security? Is your primary interest in regional/community food security (self-sufficiency in agricultural production), household-level food insecurity (families cannot afford nutritious food) or both?

Table 9. Responses to Internal Exert Interview Question 1

Participant	Responses
Participant 1	More interested in the household level food insecurity. Somehow or other the community needs to make sure that people who need more food in their lives get it. Lobbying for a raise in the welfare rates or the community stepping up and donating. In it for the families as opposed to agricultural production.
Participant 2	Fixed limited income. Food security is being able to have access to nutritious, locally grown food. Supply 1 week's worth of groceries through donations. Would be great to supply our own fruits and vegetables for the valley. This means bringing farmers and everybody on board.
Participant 3	Food security is the sustainable accessibility to a moderate amount of seasonably variable foods and consisting of a variety of nutritious foods at a reasonable cost deemed necessary to be able to maintain an active and healthy lifestyle year round. My main interest is in regional food security for BC.
Participant 4	Food Security to me is when all people in our community have access to nutritious foods, have the knowledge of what to do with these foods and has the space to prepare these meals. I am interested in both aspects. People say that we might actually have enough food it is just not being evenly distributed. I find the programs I run at CGC are very much so household focused.
Participant 5	A variety of nutritious affordable foods that are available to all people in a community, during all seasons, which are also sensitive to cultural and social needs and that are sustainably grown within or near the target community defines food security from my perspective. My primary interests are both self sufficiency and household-level food insecurity. We need to create more self sufficiency and equality regarding food security in the Cowichan Valley.
Participant 6	All these areas need advocacy as world hunger can best best addressed on a local level in every area of the world. Food security goes hand in hand with sustainable development Sustainable development is normally defined as development which meets present needs without reducing the ability of future generations to meet their needs.
Participant 7	Food security means that nutritious, safe, local food is easily and consistently available and affordable. Both are important. Household food security cannot exist without regional food security. Even if regional food security exists, households can be food insecure for political and socioeconomic reasons.

Participant 8	I would define food security as the continued availability of safe, nutritious food. While my original interest when first attending CFSC meetings was in regional agricultural production, I have become more aware of household food insecurity. Thus, the best answer is 'both'.
Participant 9	Having food available locally routinely and in times of crisis. I worry about being so dependent on California. On the household level I am concerned about the lack of knowledge and skills to take food from the garden to edible and the level of food waste that occurs in the stores and in households. As a volunteer at the food bank I am concerned about the lack of nutritious food, especially protein, being given in the hampers.

Question 2: Which regional organizations does CFSC/CGC work with to promote food security in the Cowichan? How do you work together?

Table 10. Responses to Internal Exert Interview Question 2

Participant	Responses
Participant 1	Island Health; Community Futures; Neighborhood House; Health Unit from Cowichan Tribes
Participant 2	CVRD; Municipalities; CGC; Island Health
Participant 3	The Cowichan Food Bank; Meals on Wheel; and the Healthy Food Basket
Participant 4	CVRD; Food Banks; Island Health
Participant 5	Buckerfields; The Co-op gas stations; The Cowichan Food Bank; Cowichan Valley Basket Society; Meals on Wheels; Ceres Edible Landscaping; Cowichan Incubator Seed Farm (SkillsLink); Cowichan Community Kitchens and the Healthy Food Basket
Participant 6	Island Health; Jubilee Community Garden; Island Oak Waldorf High School; Chemainus Soup Kitchen; Meals on the Ground; Cowichan Valley Food Basket Society
Participant 7	No partner organizations indicated
Participant 8	Island Health; Social Planning Cowichan; Volunteer Cowichan; Island Region Food Charter; Food Banks
Participant 9	Cowichan Valley Food Basket Society; schools; the coupon nutrition program; the community gardens

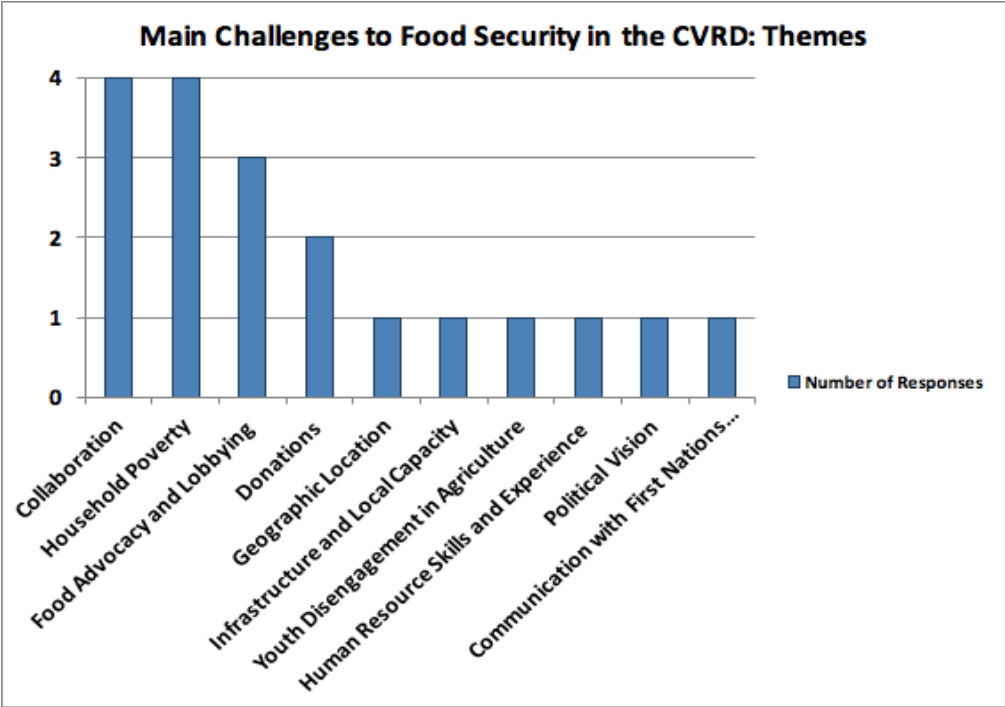
Question 3: Can you identify other organizations that promote food security in the Cowichan that CFSC/CGC is not directly working with?

Table 11. Responses to Internal Exert Interview Question 3

Participant	Responses
Participant 1	Our Cowichan

Participant 2	Food Banks BC; Food Banks Canada; Farm Credit Canada
Participant 3	VIU; Breadman; United Way
Participant 4	Providence Farms; FETCH Good Food Box; Garden Clubs; Bee Keepers; Meals on Wheels; and Cowichan Community Kitchens.
Participant 5	Girl Guides and Boy Scouts; Providence Farm; VIU; church groups; School District 79; Cooperatives
Participant 6	Jubilee Community Garden
Participant 7	Churches; food banks; addiction and poverty groups; VIHA; schools; groceries; food distributors
Participant 8	No answer
Participant 9	The Rotary Club; the Good Food Box; Margaret Moss; Warmland shelter; the two churches that offer community dinners once a month (including Duncan United Church).

Question 4: What are some of the main challenges to food security in the Cowichan Region?



Question 5: Which CFSC/CGC programs (if any) are experiencing difficulty and why?

Table 12. Responses to Internal Exert Interview Question 5

Participant	Responses
Participant 1	No answer
Participant 2	Funding of a non-profit; Not sure if any financial issues; Working to get grocery stores to work on food security and zero waste
Participant 3	No answer
Participant 4	The program manager for CGC is no longer able to run is the Fruit Save Program, Incubator Seed Farm. Constant search for funding for the Youth Outreach Team (YO Team). Finding more volunteers with specialties in fundraising, organizing, and farming would be a great help.
Participant 5	Financial downturns, funding/grant availability and government programming.
Participant 6	Lack of forward-looking vision
Participant 7	i) Fruit Save- needs funding for a full time manager during harvest season, and for equipment ii) Seed farm. A project that make great progress in its first year and now is on hold due to lack of money for staff and facilities
Participant 8	All programs are experiencing difficulty
Participant 9	No answer

Question 6: Have you considered implementing specific programs not currently offered? If yes, what are they?

Table 13. Responses to Internal Exert Interview Question 6

Participant	Responses
Participant 1	Doing something about community waste in grocery stores.
Participant 2	<ul style="list-style-type: none"> ● As an organization the Basket Society also has a soup kitchen and relies often on partnerships ● Increase Community Gardens, bucket gardening program didn't take off because of lack of resources, community kitchens also because of resource constraints

Participant 3	Greenhouses
Participant 4	<ul style="list-style-type: none"> ● Facebook page to connect farmers, stores, and people to food. ● Partnership with EI to make it mandatory for people to work a certain amount of hours on a farm ● Extension service to rent out gardening tools
Participant 5	<ul style="list-style-type: none"> ● Education programs on nutrition and food security ● Partnership with Hydro to build solar powered greenhouses
Participant 6	Programs aimed at taking food out of the waste stream
Participant 7	<ul style="list-style-type: none"> ● Farm extension services ● Tool and processing equipment shares ● Seed Bank (expand current program) ● A vehicle for all food security stakeholders to communicate and pool transportation, share food, share volunteers, ideas, and advertising ● Perhaps a facebook page ● Cowichan Incubator Seed Farm (largely on hold due to lack of funding)
Participant 8	No answer
Participant 9	Process food that would otherwise go to waste

Question 7: Is the CFSC/CGC planning to develop the program(s) you identified in question 6? - What organizations might the CFSC/CGC seek funding from to support the programs identified in question 6?

- Vancouver Foundation
- Duncan Council
- Project Growing North
- CGC is working on getting two grants (unnamed) right now for a website set up that could connect farmers and the public
- BC Hydro

Appendix G - Review of Leading Organizations with Similar Objectives as the CFSC

Table 14. PEI Food Exchange Program and Descriptions

Program Name	Description
Gleaning Program	Gleaning involves harvesting leftover crops on farmers' fields after the commercial harvest. PEI Food Exchange gleaning programs share the harvest, and ensure that one third is given to the farmer, one third to the gleaners, and one third to social service agencies (PEI Food Exchange, 2016, Gleaning, para. 1-2).
Gleaning Handbook	The gleaning handbook is intended to guide communities interested in starting a gleaning initiative and as a training aid for new gleaners (Howard, n.d., p. 1).
Herb Day	Herb Day is a one day workshop that aims to teach the community how to grow, harvest, prepare and store herbs for cooking and medicinal purposes. The sessions offered in 2017 included "plant a square foot salsa garden" and "weed walk: identify weeds and how to use them" (PEI Food Exchange, 2016, Gaining Knowledge, Herb Day section).
PEI Garden Exchange	"PEI Exchange" is an online site that promotes the concept of "Garden Sharing." The goal is for people who wish to garden but lack the space to coordinate with people who have space but need help gardening (PEI Food Exchange, 2016, Growing Food, para. 2).
Mentorship Programs	PEI Food Exchange offer food mentorship programs, including the Community Garden Mentor Program (running July through October 2017). The CGMP is a 30 hour program that provides 12 community members with organic vegetable growing skills and facilitation training (PEI Food Exchange, 2016, Gaining Knowledge, para. 1).
Food Resource Sharing Facebook Page	PEI Food Exchange uses its facebook page to advertise gleaning opportunities in PEI, upcoming workshops or events, and other food resources including articles and news (PEI Food Exchange, 2016, About Us, What We Do section).

Table 15. Depot Alimentaire Programs and Descriptions

Program Name	Description
Home Deliveries	This program entailed the delivery of monthly emergency food baskets to low-income seniors or older adults experiencing loss of autonomy. Participants of this program are referred by local health agencies (Depot Alimentaire NDG, n.d., Home Deliveries, para. 1).
Production Gardening	Depot Alimentaire NDG has production gardens in which they grow food to support their various programs (Depot Alimentaire NDG, n.d., Production Gardening, para. 1).

Table 16. FoodShare Programs and Descriptions

Program Name	Description
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Food Justice	FoodShare considers food justice to be at the core of their mandate, and thus are an example of taking a community food systems model approach. In pursuit of Food Justice, FoodShare facilitates community development and creates awareness regarding the systemic inequities that limit access to basic needs, including food (FoodShare, n.d., Food Justice). In particular, the Cross-Cultural Food Access Innovation Hub is an initiative that provides mentoring, training, consultations and other support to local grassroots organizations trying to build sustainable communities and fighting for food justice (FoodShare, n.d., Food Justice).
Bike Blender	FoodShare owns a pedal-powered blender that they rent out to the community. The goal of the project is to make exercise and healthy smoothies fun. The organization also offers instructions in building bike blenders (FoodShare, n.d., Bike Blender).
Field to Table Catering	This program is FoodShare’s social enterprise catering company. The menu changes according to the seasons and emphasizes locally grown produce. All proceeds made from this company are filtered back to their Good Food Program (FoodShare, n.d., Field to Table Catering).
Gift Baskets	ShareBaskets serve as a fundraising program for FoodShare. These baskets are sold as gift baskets and are filled with fresh local produce, seasonal local jams, and other specialty items. In 2016, this program generated \$58,850 for the organization (FoodShare, n.d., Gift Baskets).
Mobile Good Food Markets	The Mobile Good Food Market is a food truck that acts as a travelling community food market. This food truck addresses the need for low-cost fresh produce in food deserts (FoodShare, n.d., Mobile Good Food Markets, para. 1-2).
School Grown	School Grown is a schoolyard farming project. The program gets school students involved in seeding, weeding, and harvesting produce, and then allows them to run their own urban food market (FoodShare, n.d., School Grown, para. 1-2).
FoodLink	FoodLink is a volunteer-run referral service that aims to connect community members with the food programs and information that they need (FoodShare, n.d., FoodLink, para. 1).
Sunshine Garden	This market garden is located on hospital grounds, and serves as a recreational garden program for patients (FoodShare, n.d., Sunshine Garden, para. 1).

Table 17. LifeCycles Project Society Programs and Descriptions

Program Name	Description
Growing Schools	This program provides integrated school garden support to educators in Victoria. They offer consultation services, garden design, garden installation, professional development and curriculum linked classroom workshop facilitation. This program supports children in fostering deeper connections with gardening (LifeCycles, 2017, Growing Schools, para. 3-4).
Community Orchard	LifeCycles and the Town of View Royal are stewards of a community orchard, which is used for educating the public on fruit tree cultivation and care. They host volunteer work parties and free community workshops. They also maintain an on-site tree nursery (LifeCycles, 2017, Welland Legacy Park & Community Orchard, para. 3-4).

Youth Community Entrepreneur Program	LifeCycles, supported by Federal funding, ran a youth entrepreneurship program from 1999 to 2010 that focused on the creation of sustainable agri-food businesses. The program supported 12 youth per year to develop business plans and launch micro-business opportunities (LifeCycles, 2017, Past Projects, para. 2).
Native Plants & Garden Program	This program offers opportunities for Tribal School students to share and learn about traditional foods. Its goal is to incorporate an understanding of traditional foods into conversations about food security and food systems (LifeCycles, 2017, Past Projects, para. 4).

